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EGFR, Epidermal Growth Factor Receptor ; **NSCLC,** Non-Small-Cell Lung Cancer

References 1. LECLAZA® Product Information. 2021. 12. 01. **2.** Myung-Ju Ahn, *et al.* Lazertinib in patients with EGFR mutation-positive advanced non-small-cell lung cancer; results from the does escalation and dose expansion parts of a first-in-human, open-label, multicentre, phase 1-2 study. *Lancet Oncol,* 2019 Dec;20(12):1681-1690 **3.** Myung-Ju Ahn, *et al.* Lazertinib in patients with EGFR mutation-positive advanced non-small-cell lung cancer: results from the does escalation and dose expansion parts of a first-in-human, open-label, multicentre, phase 1-2 study. *Lancet Oncol.* 2019 Dec;20(12):1681-1690.(Supplementary appendix)

MG459697002

전문의약품

LECLAZA®
(lazertinib mesylate monohydrate) Tablets 80mg

[함유약물 및 분량] 1정 중
- 유효성분 : 레이저티닙메실산염일수화물(Lazertinib mesylate monohydrate) ..... 96.48 mg (레이저티닙으로서 80 mg)
- 첨가제 : 미결정셀룰로오스, 무수니플, 크로스카멜로오스나트륨, 스테아린산마그네슘, 오파드라이화이트핑크(03B52680)

[성상] 노란색의 원형 필름코팅정

[효능 효과]
이전에 EGFR-TKI치료 치료중 또는 치료 중 EGFR T790M 변이 양성 국소 진행성 또는 전이성 비소세포폐암 환자의 치료
※ 적응 환자를 선정할 때 반드시 FDA 승인 EGFR T790M 변이 양성 비소세포폐암 검사 결과를 확인할 것

[용법 용량]
※ 본 조항은 일반 정맥 비소세포폐암의 치료로 이 약을 투여하는 경우 지침
시작 전에 EGFR T790M 변이 상태를 평가해 준다.
EGFR T790M 변이 양성이 확인된 경우에만 이 약을 투여한다.
※ 시험적 검사를 사용하여 확인된 EGFR T790M 변이 양성 종양조직으로 확인된 경우에만 이 약을 투여한다.
이 약의 권장 용량은 1일 1회 240 mg(80 mg 3정)이며 매일 일정한 시간에 식사 시간 관계없이 투여한다. 정해진 간격으로 물과 함께 전체 또는 쪼개서 삼키십시오.
[용량 증량]
※ 본 조항은 일반 정맥 비소세포폐암의 치료로 이 약을 투여하는 경우 지침
시작 전에 EGFR T790M 변이 상태를 평가해 준다.
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※ 시험적 검사를 사용하여 확인된 EGFR T790M 변이 양성 종양조직으로 확인된 경우에만 이 약을 투여한다.
이 약의 권장 용량은 1일 1회 240 mg(80 mg, 3정)이며 매일 일정한 시간에 식사 시간 관계없이 투여한다. 정해진 간격으로 물과 함께 전체 또는 쪼개서 삼키십시오.

1. 주의사항
1) 적절 진단검사에의 결과 참여 확보로 심각이 된다. 정확을 주수가 표적 가능 이상이 된다.
환자가 정확을 입힐 수 없는 경우 정확을 참여하십시에 보이시지 않았을 수 있어 정확을 확보하기 힘든 약 30~40% 환에 달할 수 있으므로 적은 환자에서 정확을 확보하기 위해 30, 40 mg, 80 mg, 120 mg, 160 mg, 240 mg, 320 mg 용량의 약 이을 최소한 1번 투여 받은 총 1명의 환자 노출을 평가한다. 다음에는 이러한 용량으로는 1일을 초과 그들군(2021) 20%이상에서 발생한 가장 빈번하게 보고된 이상반응은 설사(59.2%), 구역(56.2%), 구토(32.1%), 감각 이상(31.0%)이었다. 환자의 34.9%에서 중증 이상반응(Common Terminology Criteria for Adverse Events, CTCAE grade 3 이상)이 나타났다. 이상반응으로 인한 중단 감소는 8.3%의 환자들에서 나타났으며 9.3%가 이상반응으로 인하여 투여를 중단하였다. 간질성 폐렴은 환자의 1.2%(29명)에서 발생하였으며, 중증의 이상반응으로는 간질성 폐렴은 환자의 0.2%(5명)에서 나타났다. CTCAE 등급 3.

이 약의 240 mg 용량을 투여 받은 대상자(제한 총 기간에 29.2%)에서 이상 반응이 보고되었으며, 대부분의 이상반응 중증도는 1등급 또는 2등급 이었다(No. 3의 중증도). 심장사망(No. 1) 1명(1%)을 제외를 포함을 대상으로 조사하지 않았다. 정맥에 투여를 제외를 수 없다. 수술부위에서 약 국 외로 중 수술 합의도도 제외 한다.

2. 주의 노력
이 약의 제품을 노력한 경우, 다음 투여약의 양자간 이상 상담으로 주시 복용한다.

3. 용량 조절
이 환자에 안전성 및 내성에 근거해서 투여 용량 및 중단 결정을 할 수 있다. 용량 감소 결정 없이 240 mg 복용을 위해 환자 1명 100 mg(80 mg 2정)로 감량하여 1일1회 투여 하며 이러한 이상반응 복용에 대한 용량 조절 및 없는 표 에 제시하지 않다.

<표 1. 권장 용량 조절>

용량 기준	이상반응*	용량 변경
비	간질성 폐렴(ILD)/간질성 폐렴	이 약을 영구 중단한다
가능	1등급 이상의 이상반응이	환자 3주간 이 약을 중단한다
	1등급 이상의 이상반응이 2주간 이상 지속되는 경우	환자 3주간 이 약을 중단한다
	3등급 이상의 이상반응이	이 약을 영구 중단한다
	최대 3주간 이 약을 중단한 이후 0-2등급으로 개선되지 않는	이 약을 영구 중단한다
	1등급 이상의 이상반응	이 약을 영구 중단한다

*비고 : 국립암센터 Common Terminology Criteria for Adverse Events, CTCAE) 버전 4.0에 따른 등급이 분류된 임상적 이상반응을 중증도.

[사용상의주의사항]
1. 경고
1) 간질성 폐질환(Interstitial Lung Disease, ILD)/간질성 폐렴 : 레이저티닙 시험 시험 n=254에 2차 치료 환자 대상 시험 1.2%(2명)의 환자에서 간질성 폐렴이 보고되었으며, 각각 주의 후 8.8주 및 2.8개월 환자 투여 중단한 보고되었다. 이러한 이 약 투여 시 환자 가 이 약의 이상반응에 대해 충분히 설명을 하고, 임상 증상에 호흡곤란, 기침 및 발열 등에 대해 유의하여 관찰하고, 간질성 폐렴이 의심 되는 경우 즉시 이 약을 투여를 수 중는 조절가 중단이 내려는 경우에는 투여를 중지하고 이 약의 중단에 대해 신속히 조치한다. 간질성 폐렴의 진단은 폐렴이 확인 또는 경우 이 약을 중단한다고 적절한 치료를 실시하여야 한다.

2. 다음 환자에는 주의하여 투 것
1) 수 약에 과민증 주상분이나 부형제에 대해 중증의 과민증이 있는 환자

3. 다음 환자에는 신중히 투여할 것
1) 간장애 재조절이 있는 환자 : 중증 위험간장애 가지고 있는 환자나 급성 폐렴에, 폐렴의 재심각증은 간장애 폐렴, 전폐증, 방사선 폐도염 폐렴, 약물성 폐렴 환자 등는 약을 조절하여 투여하십시오. 간장애 폐렴이 있는 폐렴 환자에서 이 약의 안전성에 대해 충분히 조사되지 않았다.
2) 신장애 환자 : 중증의 신장애 환자에서 이 약의 안전성에 대해 충분히 조사되지 않았다.

4. 이상반응
이 약의 안전성 데이터는 임상개발 프로그램 전략을 근거로 하여, 시험에 치료받은 적이 없는 환자에서 안전성이 수집에 일반적인 임상시험 n=254 명의 비소세포폐암 환자 중 20 mg, 40 mg, 80 mg, 120 mg, 160 mg, 240 mg, 320 mg 용량의 이 약을 최소한 1번 투여 받은 총 1명의 노출을 평가한다. 다음에는 이러한 용량으로는 1일을 초과 그들군(2021) 20%이상에서 발생한 가장 빈번하게 보고된 이상반응은 설사(59.2%), 구역(56.2%), 구토(32.1%), 감각 이상(31.0%)이었다. 환자의 34.9%에서 중증 이상반응(Common Terminology Criteria for Adverse Events, CTCAE grade 3 이상)이 나타났다. 이상반응으로 인한 중단 감소는 8.3%의 환자들에서 나타났으며 9.3%가 이상반응으로 인하여 투여를 중단하였다. 간질성 폐렴은 환자의 1.2%(29명)에서 발생하였으며, 중증의 이상반응으로는 간질성 폐렴은 환자의 0.2%(5명)에서 나타났다. CTCAE 등급 3.

이 약을 240 mg 용량을 투여 받은 대상자(제한 총 기간에 29.2%)에서 이상 반응이 보고되었으며, 대부분의 이상반응 중증도는 1등급 또는 2등급 이었다(No. 3의 중증도). 심장사망(No. 1) 1명(1%)을 제외를 포함을 대상으로 조사하지 않았다. 정맥에 투여를 제외를 수 없다. 수술부위에서 약 국 외로 중 수술 합의도도 제외 한다.

MedDRA 기준에	MedDRA 용어	이상반응 발생한 환자수(비율) N=368	반도
위장관계 장애	설사	171(1.8)	매우 흔하게
	변비	131(6.7)	매우 흔하게
	오심	121(5.4)	매우 흔하게
	구토	81(0.3)	매우 흔하게
	구내염	7(0.3)	흔하게
	발진*	35(44.8)	매우 흔하게
	가려움증	26(33.3)	매우 흔하게
피부 및 피하조직 장애	건성증 피부염	13(16.7)	매우 흔하게
	피부 건조	8(10.3)	매우 흔하게
	광선 이상	2(2.0)	매우 흔하게
각종 신장계 장애	두통	77(24.6)	매우 흔하게
	어지럼증	31(9.9)	매우 흔하게
	말초 신경병증	6(7.7)	흔하게
	감각 이상	4(5.1)	흔하게
근골격 및 결합조직 장애	근육 경련	25(6.4)	매우 흔하게
	근육통	10(12.8)	매우 흔하게
감염 및 기생충 감염	상기도 감염	9(11.5)	매우 흔하게
호흡기, 흉곽 및 종격 장애	기침*	15(19.2)	매우 흔하게
	간질성 폐렴	1(1.3)	흔하게
일반 장애	말초부종(말초성 부종 포함)	9(11.5)	매우 흔하게
	아스테르신 증가(Aspartate aminotransferase increased)	4(5.1)	흔하게
대사 및 영양 장애	식욕 감소	16(20.5)	매우 흔하게
혈관 장애 및 출혈 장애	피로	12(15.4)	매우 흔하게
간 및 담도계 장애	눈 건조	4(5.1)	흔하게

*1등급 간질 폐렴 중에서 보고된 사례를 포함한다. 탈모 환자 발현 빈도수 및 중증도 및 이드를 포함한다.

<표 2. 이상반응 (임상시험 분석 : YH25448-2001>

MedDRA 기준에	MedDRA 용어	이상반응 발생한 환자수(비율) N=368	반도
위장관계 장애	설사	171(1.8)	매우 흔하게
	변비	131(6.7)	매우 흔하게
	오심	121(5.4)	매우 흔하게
	구토	81(0.3)	매우 흔하게
	구내염	7(0.3)	흔하게
피부 및 피하조직 장애	발진*	35(44.8)	매우 흔하게
	가려움증	26(33.3)	매우 흔하게
	건성증 피부염	13(16.7)	매우 흔하게
	피부 건조	8(10.3)	매우 흔하게
	광선 이상	2(2.0)	매우 흔하게
각종 신장계 장애	두통	77(24.6)	매우 흔하게
	어지럼증	31(9.9)	매우 흔하게
	말초 신경병증	6(7.7)	흔하게
	감각 이상	4(5.1)	흔하게
근골격 및 결합조직 장애	근육 경련	25(6.4)	매우 흔하게
	근육통	10(12.8)	매우 흔하게
감염 및 기생충 감염	상기도 감염	9(11.5)	매우 흔하게
호흡기, 흉곽 및 종격 장애	기침*	15(19.2)	매우 흔하게
	간질성 폐렴	1(1.3)	흔하게
일반 장애	말초부종(말초성 부종 포함)	9(11.5)	매우 흔하게
	아스테르신 증가(Aspartate aminotransferase increased)	4(5.1)	흔하게
대사 및 영양 장애	식욕 감소	16(20.5)	매우 흔하게
혈관 장애 및 출혈 장애	피로	12(15.4)	매우 흔하게
간 및 담도계 장애	눈 건조	4(5.1)	흔하게

*1등급 간질 폐렴 중에서 보고된 사례를 포함한다. 탈모 환자 발현 빈도수 및 중증도 및 이드를 포함한다.

5. 상호작용
1) CYP3A4 유발제의 감수
국소 진행성 또는 전이성 비소세포폐암의 치료제로서 이 약의 사용을 고려할 때, 3개의 기술적 시험(2 농도-반 상호시험에서 EGFR T790M 변이 양성을 확인하는 것이 중요하다. 임상시험에서는 EGFR T790M 변이 양성 비소세포폐암 전이부가 위해 준수진도하의 Cobas®EGFR Mutation Test를 사용하였다.

2) 억제 및 유발제
이 약을 투여 받은 환자 중 60명(3.9%)이 환자에서 심전도 QT 연장이 나타났으며 이 중 240 mg을 투여한 환자는 4명(5.1%)이다. 이 중 중증의 이상반응은 없으며, 중증도는 모두 1등급이었다. 이들 환자 중 치료 중단한 환자는 없었다. 이 약을 투여 받은 환자 중 1명(0.1%)에서 심실빈맥 이상이 보고되었다.

3) 상호작용 연구
이 약을 투여 받은 환자 중 심박출률 감소(5명, 0.6%)가 환자가 없어 나타났으며 이와 중증도는 1등급이었다. 240 mg을 투여 받은 환자에서는 나타나지 않았으나, 심장에서 이상이가 있는 환자에서는 적절한 구별을 평가를 포함 한 심전도와 심박출 고려할 수 있다.

4) 눈 장애
이 약을 투여 중에 눈 건조증은 보통 경미, 일부 중증이 보고 되었으며 중증도 또는 눈의 증상과 같은 각막염의 징후 및 증상을 보이는 환자 중은 즉시 안과 전문의에게 상담을 받아야 한다.

5) 간기능 이상
이 약 투여 받은 환자 중 3명(0.1 이하)는 ALT 증가, 1명(0.1 이하)는 AST 증가, 4명(0.1 이하)는 ALT 증가 및 AST 증가가 있었다. 이 중 2명은 중증의 이상반응이 있었으며, 1명은 3등급, 1명은 4등급이었다. 이 중 1명은 이 약의 투여 중단하였다.

6. 심장독성
1) 이 약은 주로 글루타르산-S-전이효소 Mu 1(glutathione S-transferase Mu 1) GST M1 및 cytochrome P450 3A4(CYP3A4)에 의해서이루어진다. 따라서 이 약은 GST M1 및 CYP3A4의 활성에 영향을 미치는 약제(유발제 및 억제제)와 병용 투여 시 주의가 필요하다.
2) CYP3A4 저해제(억제)으로는 케톡코나졸, 이트라코나졸, 보리코나졸 등의 클래 항균제, 에리스로마이신, 클라스로마이신 등 마크로라이드 항생제, 디ltiazem 등 칼슘채널차단제, 자몽주스 등이 있다. 이 약을 투여 중인 환자에서 이러한 약제를 투여하는 경우 이 약의 용량을 감량하여 투여하는 것을 고려하여야 한다.
3) CYP3A4 유발제로는 리팜피신, 페니토인, 카르바마제핀 등이 있다. 이 약을 투여 중인 환자에서 이러한 약제를 투여하는 경우 이 약의 용량을 증량하여 투여하는 것을 고려하여야 한다.

7. 임부 및 수유부에 대한 투여
1) 임부
이 약을 임부에게 투여한 적합한 자료는 없다. 동물시험에서는 생식독성을 보였다. 임신 중인 여성에게 투여 시 사전 혜택 노출되지 4.3배 높은 수준에서 태아의 적은 후 손상 증가에 대한 동물 감소가 관찰되었다. 적절기간 및 이 임상시험 결과에 근거 이 약은 임부에게 투여하지 않아야 한다. 임신 중인 여성에게 투여하는 경우 치료를 받을 수 있다 이 임부에게 투여하지 않는다.
2) 수유부
레이저티닙 또는 그 대사체가 사람 모유로 분비되는지는 알려져 있지 않다. 모유를 통한 레이저티닙 또는 그 대사체 배출을 동물을 대상으로 조사하지 않았다. 모유먹이 투여에 위험을 배제할 수 없다. 수유부에게 이 약 치료 중 수유를 중단하도록 해야 한다.

8. 소아에 대한 투여
소아 환자에서 이 약의 안전성 및 유효성이 확립되지 않았다.

9. 고령자에 대한 투여
이 약의 240 mg 용량을 투여 받은 환자 개별 중 65세 이상의 환자는 29명(34.8%)이었다. 380 mg군에서의 이들 간의 이상반응 및 치료 중단 이상반응 등 차이는 없었다. 65세 이상의 환자 중 20%는 65세 미만 환자에서는 88.9%(240명)에 비해 71.4%(20명)로 유사하게 보고되었다. 간의 이상은 65세 이상 환자에서 65세 미만 환자보다 더 많이 보고되었다. 65세 이상 연령이 갖없다 65세 이상 고령자에서 이 약의 안전성과 유효성이를 확인 충분히 조사 되지 않았다. 고령자는 65세 이상 연령에 이 약의 사적용량 조절이 필요하 없다.

10. 간기능 장애에 대한 투여
중증의 간장애(Child-Pugh C)를 가진 환자는 없었으며 경증으로 확립되지 않았다. 기타시 투여하는 경우는 대상는 환자 혼스에기 또는 아스파르테이트 아미노 전이 효소(AST)수치가 2.5 x 정상한계(Upper limit normal, ULN)를 초과하거나중 가능한 간 전이가 있는 경우 1.5x(ALT)정상한 전이가 있는 경우는 환자 대상 시험에서 이 약을 투여 받은 환자는 없었다. 이 약은 간장애 환자에 대한 안전성 및 유효성은 확립되지 않았다. 기타시 대상으로 이들에 대한 안전성 및 유효성은 확립되지 않았다. 기타시 대상에 게는 이 약을 투여하지 않는 것이 좋다.

11. 신장에 장애에 대한 투여
CLZ를 한 환자(Cockcroft and Gault 방정식에 의해 계산된 크레아티닌 청소율(CrCL)이 50 ml/min 이만의 에 대한 이 약의 안전성과 유효성은 확립되지 않았다. 중증의 환자 CrCL 30 ml/min 이만의 환자에 투여 시 주의해야 한다.

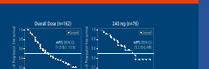
12. 임상검사에의 영향
임상검사에에 대한 이 약의 영향에 대한 보고는 없다.

13. 과량투여시의 처치
임상시험에서 이 약의 과량투여시의 영향은 확립 되어있지 않다.

14. 보관 및 취급상의 주의사항
이 약은 어린이의 손이 닿지 않는 곳에 보관하도록 주의한다.
고 다른 용기에 넣거나 덜어 놓고 원인이 되거나 용도 외의 목적이 없으므로 이를 주의한다.

15. 전문가를 위한 정보
1) 약리작용
레이저티닙은 티로신 키나제 억제제(Tyrosine Kinase Inhibitor, TKI)이다. 이 약은 EGFR 변이 양성 비소세포폐암의 높은 선택성과 EGFR 억제활성을 보유하고 있다. 레이저티닙은 EGFR 활성화 돌연변이 Ex19del, L858R 및 T790M 돌연변이 포함 모든 활성화 돌연변이 및 야생형 EGFR에 대한 효능을 입증하고 있다.
in vitro 실험에서 레이저티닙은 EGFR 활성화변이(Ex19del, L858R, T790M)와 이 들 돌연변이(Ex19del/T790M 및 L858R/T790M)를 포함하는 돌연변이 EGFR 키나제에서 강력한 억제 효과를 보였으며, 야생형 EGFR 키나제에 대해서는 약한 효과를 보였다. 또한 레이저티닙은 Her2, Her4 또는 EGFR 이외에에 대해서 유사한 선택성을 보였다. EGFR 돌연변이 비소세포폐암 세포주를 이용한 기전연구에서 레이저티닙은 EGFR, AKT 및 ERK의 인산화 활성을 용량에 의존적으로 감소시켰고, 세포사멸 전구체 단백질인 Bim의 발현을 증가시켰다. 또 그 기전으로 Bim 발현을 증가시켜 세포사멸을 유도하였다. 이러한 결과는 EGFR 비소세포폐암 세포주 증에 레이저티닙 단일요법 또는 다른 EGFR 티로신 키나제 억제제 병용요법 투여 시 종양 성장을 억제하였다.

2) 약동학
in vitro 실험에서 이 약의 경구 투여로 인한 EGFR 돌연변이 또는 T790M 이 포함된 이중돌연변이를 갖는 비소세포폐암 이종이식 마우스 모델에서 투여 한 혈청중 최대농도 및 AUC



CI : 신뢰구간(confidence interval).
ILD : 간질성 폐질환(interstitial lung disease).
mPFS : 무진행 생존 기간 중앙값(median progression-free survival).
NR : 도달하지 않음(not reached)

전체 환자군 대상 확증 용량 검토와 시험의 평가에 따른 추정 가능한 1년 생존(measurable brain lesion이) 있는 대상자의 수는 갖추 고려 되고 확증 용량 검토에 사용한 평가에 따른 이 약의 1년 생존율(clinical objective response rate)은 50% 및 64% 이었다. 1차에 환경은 대표 확증 용량 검토에 사용한 평가에 따른 평가 가능 뇌 병변(evaluable brain lesion)이 있는 대상자 수는 이 약의 확증 용량 이었다. 확증 용량과 시험의 평가에 따른 추정값 이었다. 확증 용량과 시험의 평가에 따른 생존 기간(clinical PS)의 경우 중앙값은 모두 도달하지 않았으며 확증 검토 95% 신뢰구간 14.0개월 도달하지 않음(not reached), 시험의 평가 95% 신뢰구간 13.7개월 도달하지 않음(not reached)

4) 독성시험정보
(1) 일반독성
생쥐와 개의 반복투여 독성시험에서 성장시 내성을 보인 대부분의 조직과 기관에서 이러한 소견 투여에서 치료시 이러 없음. 간기까지의 변화가 관찰되었다 이러한 결과는 240 mg 제로 용량의 환자를 노출시킨 것으로 도달시 발생하고 이러한 독성학적 결론은 임상시험 독성학적 결론과 일치하는 독성학적 결론이다.
(2) 유전독성 및 발암성
레이저티닙은 *in vitro* 복귀돌연변이시험, 염색체이상시험 및 *in vivo* 설치 소핵시험에서 모두 음성반응을 보였다. 장기 발암성 시험은 실시되지 않았다.
(3) 생식독성
레이저티닙은 랫드 수태능 초기배 발생시험에서 30 mg/kg 투여군에서 태아의 적은 후 손실 증가를 생존 태아 수의 감소가 관찰되었다. 무한 도달 용량에서 태아 노출량은 임상시험에서 레이저티닙 적은 후 손실 증가와 태아 출현 감소가 보였으나 태아의 외형, 내장 검사에서 기형성은 관찰되지 않았다. 또한 랫드 출생 전후 발달 시험에서 레이저티닙 투여 군에서 출생 후 생존율 감소가 보였으나 태아의 외형, 내장 검사에서 기형성은 관찰되지 않았다. 또한 랫드 출생 전후 발달 시험에서 레이저티닙 투여 군에서 출생 후 생존율 감소가 보였으나 태아의 외형, 내장 검사에서 기형성은 관찰되지 않았다.

<그림 1. T790M 돌연변이 양성 환자에서 치료 중단 결정(ICH에 따른 무진행 생존기간 이용시험 변경 : YH25448-2001>

CI : 신뢰구간(confidence interval).
ILD : 간질성 폐질환(interstitial lung disease).
mPFS : 무진행 생존 기간 중앙값(median progression-free survival).
NR : 도달하지 않음(not reached)

<그림 2. T790M 돌연변이 양성 환자에서 시험의 평가(ASIR 따른 무진행 생존 기간 이용시험 변경 : YH25448-2001>

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APSR 2022
The 26th Congress of the Asian Pacific Society of Respirology

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WELCOME MESSAGES
FROM THE LOCAL CONGRESS COMMITTEE OF APSR 2022

Dear Colleagues and Friends,

It is our great pleasure to invite you to the 26th Congress of the Asian Pacific Society of Respirology (APSR 2022), which will take place on 17-20 November 2022 at Coex in Seoul, Republic of Korea.

This is the second time that Korea has been given the honor to host this prestigious event since the 2009 congress in Seoul. At the APSR 2022, under the theme "Above and Beyond" a large number of professors, doctors, researchers, nurses, and distinguished leaders from Asia will get together to discuss recently emerging issues and exchange the latest information in the field of Respiratory Diseases, Critical Care Medicine, Oncology, and Clinical Immunology.

The APSR 2022 scientific program will propose high-quality scientific sessions that will provide deeper knowledge and new perspectives on the related themes. The program will be a highly rewarding international platform for all the participants and will contribute to enhancing the scientific level and quality of our field.

Seoul, the host city of the APSR 2022. Rich in historical and cultural heritage, it also offers all the possible conveniences and world-class facilities of the international megalopolis that it has become today. November, with its pleasant weather, is the best time to enjoy the beautiful natural scenery that the capital has to offer.

We look forward to welcoming you and your colleagues to the APSR 2022, which promises to be meaningful and fruitful to all the participants.

Warmest Regards,

Ki-Suck Jung

President,
APSR 2022

Local Congress Committee

Professor, Hallym University College of Medicine

Jae Jeong Shim

Secretary General,
APSR 2022

Local Congress Committee

Professor, Korea University College of Medicine

Jang-Won Sohn

Vice Secretary General,
APSR 2022

Local Congress Committee

Professor, Hanyang University College of Medicine

Kwang Ha Yoo

Vice Secretary General,
APSR 2022

Local Congress Committee

Professor, Konkuk University School of Medicine

Chin Kook Rhee

Vice Secretary General,
APSR 2022

Local Congress Committee

Professor, The Catholic University of Korea College of Medicine

WELCOME MESSAGES
FROM THE APSR PRESIDENT

Above and beyond – time to move on and catch up

With the COVID-19 pandemics over the past three years, one APSR Congress was deferred from 2020 to 2021 to become the APSR Congress Kyoto in 2021 that was held in a hybrid format. This APSR Congress in Seoul 2022 will be held in a close to previous format of physical attendance and meeting like what we used to have before the pandemics. This represented a bold commitment from APSR and the Congress committees towards recovery from COVID-19 pandemics. We do hope to stay connected with members in the region and collegiate society members around the world.

Besides the rich contents as previous APSR Congress program fully packed this time with postgraduate courses, scientific symposia, plenary sessions, oral and poster presentation sessions, with internationally renowned experts invited to speak and to chair discussion sessions, we have introduced two new sessions.

On the first day of the Congress, there will be a new Big 5 Lung Diseases Workshop where APSR, WHO and the Union have gathered new population and community management models for important respiratory diseases including asthma, chronic obstructive pulmonary diseases, pneumonia, tuberculosis and lung cancer for discussion and evaluation by leaders from WHO, ATS, ERS and the Union. On the fourth day of the Congress, there is another new session of Joint APSR-GOLD where representatives from the GOLD committee will discuss and bring us updates on COPD management.

On behalf of APSR, I would like to take this chance to thank both the Central and the Local Congress Committees in Korea for making this Congress happened. May I extend our warm APSR welcome to all society leaders, delegates and participants, and wish you all an enjoyable and memorable APSR Congress in Seoul 2022!

David CL Lam

President, Asian Pacific Society of Respirology

OVERVIEW

Congress Overview

Title	The 26th Congress of the Asian Pacific Society of Respirology (APSR 2022)
Thema	Above and Beyond
Date	17-20 November 2022
Venue	Coex, Seoul, Korea
Hosted by	Asian Pacific Society of Respirology (APSR) The Korean Academy of Tuberculosis and Respiratory Diseases (KATRD)
Sponsored by	Korea Tourism Organization Seoul Metropolitan Government
Expected Participants	2,000 Delegates from 50 Countries
Official Language	English
Program	Lecture, Symposium, Oral and Poster Discussion, Sponsored Symposium, Post-graduate Course, Opening/Closing Ceremony, Welcome Reception, Gala Dinner, Social Program, Tour Program, Exhibition, etc.
Website	www.apsr2022.org

Congress Logo

APSR 2022
17-20 November 2022
Coex, Seoul, Korea

The logo for APSR 2022 was inspired by the 'Saekdongjeogori' (Hanbok), a Korean traditional attire. The harmony of the colorful stripes symbolizes the Asia-Pacific countries.

The logo represents a variety of countries in the region, which come together for cooperation and advancement in the field of respirology so that members of APSR go above and beyond the current limitations and make a great leap forward.

ABOUT THE APSR & KATRD

Asian Pacific Society of Respirology

Having been established in 1986, the Asian Pacific Society of Respirology (APSR) held its first academic conference in Tokyo, Japan in October, 1988, before turning it into an annual occurrence in 2000. It has enjoyed continued growth and is now recognized as being almost on par with the American Thoracic Society (ATS) and the European Respiratory Society (ERS). APSR is aimed at promoting friendship and the sharing of the latest knowledge and research findings among physicians, nurses, lung function technicians, and respiratory rehabilitation therapists involved in the treatment of respiratory diseases in such Asia-Pacific countries/regions as Japan, Australia, New Zealand, Korea, China, Taiwan, Thailand, Singapore, and the Philippines.

KATRD in Service of Humanity's Respiratory Health and Happiness

Started as an academic arm of the Korean National Tuberculosis Association (KNTA) in November 1953, KATRD has become a society that boasts a long history and tradition. Despite significant challenges in the wake of the Korean War, the society's first academic conference took place on November 7, 1953 thanks to its passion for research and its resolve for tuberculosis eradication. It was re-launched as the Korean Academy of Tuberculosis in 1961 and then renamed the Korean Academy of Tuberculosis and Respiratory Diseases (KATRD) in 1989.

KATRD's focus on academic advances through exchanges and harmony among its members has been the catalyst for both its continued growth over the last 65 years and its unrivaled position as a prime organization in the research and treatment of respiratory diseases like tuberculosis. It now has more than 1,620 members and has hosted 127 academic conferences. Its official journal, "Tuberculosis and Respiratory Diseases (TRD)," has been listed on PubMed, contributing to the international dissemination of its research findings, and it strives to elevate the journal to the SCI level.

With today's increased risks of respiratory diseases such as chronic obstructive pulmonary disease, lung cancer, bronchial asthma, and lung injury, KATRAD has designated Lung Day to promote the importance of pulmonary health and giving up smoking. This campaign to increase awareness among the general public has earned KATRD recognition as an exemplary academic society that fulfills its social responsibilities.

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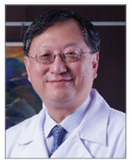
Won-Il Choi	*Myongji Hospital, Republic of Korea*
Won-Young Kim	*Chung-Ang University Hospital, Republic of Korea*
Woo Jin Kim	*Kangwon National University, Republic of Korea*
Woo-Jung Song	*University of Ulsan College of Medicine, Republic of Korea*
Yasuhiro Kondoh	*Tosei General Hospital, Japan*
Yeol Kim	*National Cancer Center, Republic of Korea*
Yeon Wook Kim	*Seoul National University, College of Medicine, Republic of Korea*
Yeon-Mok Oh	*University of Ulsan College of Medicine, Republic of Korea*
Youlim Kim	*Konkuk University School of Medicine, Republic of Korea*
Young-Jae Cho	*Seoul National University College of Medicine, Republic of Korea*
Yuming Guo	*School of Public Health and Preventive Medicine, Monash University, Australia*

AWARDS

APSR Medal

Yoichi Nakanishi
Kitakyushu City Hospital Organization
Japan

Michiyoshi Harasawa Research Award



Chong-Jen Yu
National Taiwan University College of Medicine
Taiwan

Ann Janet Woolcock Research Award

Anne Chang
Menzies School of Health Research
Australia

Fukuchi Award for Best Original Research Paper in Respirology

Peter Wark
Hunter Medical Research Institute
Australia

"ACE2 expression is elevated in airway epithelial cells from older and male healthy individuals but reduced in asthma"

Peter A B Wark, Prabuddha S Pathinayake, Gerard Kaiko, Kristy Nichol, Ayesha Ali, Ling Chen, Erika N Sutanto, Luke W Garratt, Sukhwinder S Sohal, Wenying Lu, Mathew S Eapen, Christopher Oldmeadow, Nathan Bartlett, Andrew Reid, Punnam Veerati, Alan C-Y Hsu, Kevin Looi, Thomas Iosifidis, Stephen M Stick, Philip M Hansbro, Anthony Kicic

Stephanie Yerkovich
University of Queensland
Austrailia

"Outcomes of protracted bacterial bronchitis in children: A 5-year prospective cohort study"

Tom J C Ruffles, Julie M Marchant, Ian B Masters, Stephanie T Yerkovich, Danielle F Wurzel, Peter G Gibson, Greta Busch, Katherine J Baines, Jodie L Simpson, Heidi C Smith-Vaughan, Susan J Pizzutto, Helen M Buntain, Gregory Hodge, Sandra Hodge, John W Upham, Anne B Chang

APSR ATS Young Investigator Award

Alejandro A Pezzulo
University of Iowa
U.S.A.

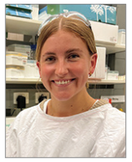
Rachel S. Knipe
Massachusetts General Hospital
U.S.A.

APSR ERS Young Investigator Award

Yong Suk Jo
Seoul St Mary Hospital, College of Medicine, The Catholic University of Korea
Republic of Korea

Apisara Suriyakul
Thammasat University Faculty of Medicine
Thailand

APSR TSANZ Young Investigator Award



Olivia Carroll
The University of Newcastle and the Priority Research Centre for Healthy Lungs, Hunter Medical Research Institute - Newcastle
Australia

APSR JRS Young Investigator Award

Yusuke Shiraishi
Graduate School of Medicine, Kyoto University
Japan

Ho Namkoong
Keio University School of Medicine
Japan

Takanori Asakura
University of North Carolina at Chapel Hill
U.S.A

APSR Travel Award

Yina Wang
The Second Xiangya Hospital, CSU
China

Jamaluddin Madolangan
Hasanuddin University
Indonesia

Thi Mai Phuong Nguyen
National Lung Hospital
Viet Nam

Benjo Ato
Southern Philippines Medical Center
Philippines

Dhammika Leshan Wannigama
Chulalongkorn University
Thailand

Narongkorn Saiphoklang
Thammasat University Faculty of Medicine
Thailand

Nagesh Dhadge
Central Health Services
India

Pyng Lee
National University of Singapore
Singapore

Brian Nelson Ong
Lung Center of the Philippines
Philippines

Ji-Young Lee
Inflammation-Cancer Microenvironment Research CenterCollege of Medicine, Ewha Womans University
Republic of Korea

APSR Young Investigator Award

Stephanie Palacios
West Visayas State University Medical Center
Philippines

Yiting Tang
Sengkang General Hospital
Singapore

Adhitri Anggoro
Medical Faculty of Airlangga University / Dr. Soetomo General Academic Hospital
Indonesia

Jooyeon Lee
Kangwon National University
Republic of Korea

Yedham Kang
Korea University Ansan Hospital
Republic of Korea

Jimin Jang
Kangwon National University
Republic of Korea

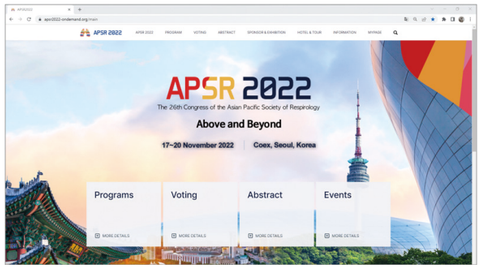
Shih-Yu Chen
National Taiwan University Hospital Hsin-Chu Branch
Taiwan

Shinya Otsuka
National Hospital Organization Hakodate National Hospital
Japan

Song-I Lee
Chungnam National University Hospital
Republic of Korea

Yoshifumi Suzuki
Juntendo University Faculty of Medicine and Graduate School of Medicine
Japan

ON-DEMAND PLATFORM



Go to the On-demand Platform

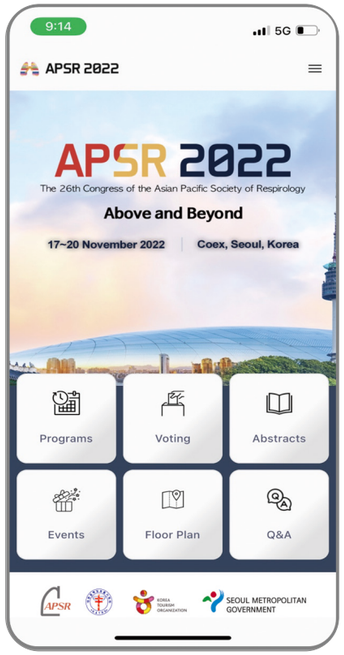
apsr2022-ondemand.org

On-demand platform is available for
both web and mobile versions.

Scan for the On-demand platform

*On-demand platform will be available for
1 month after the congress.
(Until 31 January 2023)

MOBILE APP



Android **iOS**

1. **Scan QR Code**
   Turn on camera or QR Code reader app
   for scanning.
2. **Search the App at Mobile Store**
   Install after searching 'APSR 2022'
   at Google play store or apple app store.

How to use

You could log in the app and
on-demand platform with
e-mail address that you put for
the registration.

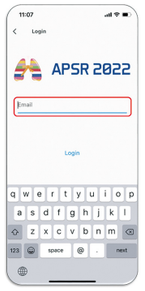
VOTING

Voting App Implementation

1

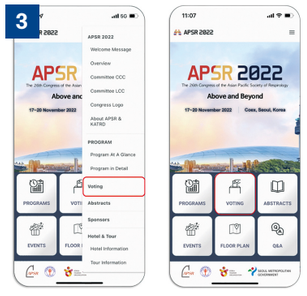
Open APSR 2022 app.

2



Log in with the
email on registration.

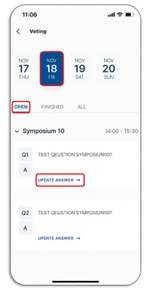
3



Click voting menu.
(Click 'Voting' on Main icon or menu.)

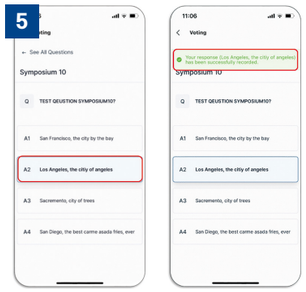
Voting Participation

4



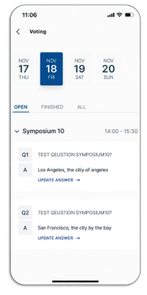
Click the date and check
the on-going voting list,
and click 'UPDATE ANSWER'.

5



Check question and options for
answers and cast a vote.
-> When answer selection is
completed will pop up.

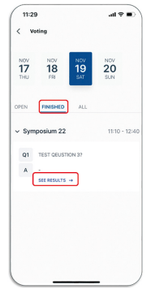
6



For the case of voting that you
selected an answer, the answer is
seen on the list.

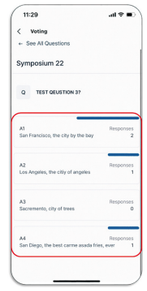
Check Completed Voting

7



Click 'Finished' and check the
list of completed voting.
-> Click 'SEE RESULT' and
check the voting result.

8



Check voting result statistics.
-> Check the final result of
voting count.

GENERAL INFORMATION

Abstract & Publication

Abstract of the APSR 2022 (oral/poster) is only published a mobile application and on-demand program.
(*the application access ID is your registration email).
Final version of the Respirology web publication will be announced later on the website.

Certificate of Attendance

Certificate of attendance will be sent through email after the congress.

Weather

In November average day temperature is from13°C to 14°C (SP to 57°F). Warm days and cool nights, so a light coat is useful. For detailed information, please visit the official website of Korea Metrological Administration.

Language

The official language of the congress is English. Simultaneous translation will NOT be provided.

APSR 2022 APP

Search APSR 2022 to install the congress interactive mobile app to your smartphone and portable device to access all the information you need!

Exhibition

Exhibition is held in Hall D2. The Lounges for Diamond Sponsors are located at the lobbies of Hall D2 (3rd floor), Auditorium (3rd floor) and Grand Ballroom (1st floor).

Insurance

The Local Congress Committee (LCC) will take no liability for personal injuries sustained by, or for loss or damage to property belonging to congress participants, either during or as a result of the congress. It is, therefore, advised that participants arrange their own personal health, accident and travel insurance.

Badges

Name badges must be worn for admittance to all APSR 2022 programs. There will be a US$50 fee for replacement of badges.

Poster Exhibition

- Venue: Hall D (3F) lobby
- Date & Time : 09:20-19:00, 18-19 November
- Detail information of poster exhibitions are available on APSR2022 official website:
  Program> Oral Presentation & Poster Exhibition
  (or Board> Download Center)

Mobile Phone (Roaming)

CDMA cellular systems are widely used in Korea. SK Telecom, KT and LG U+ provide a SIM card roaming service to allow you to use your GSM subscription in Korea. At Incheon International Airport, you can rent a special CDMA cellular phone which accepts your SIM card.

Camera and Recording

Any electronic recording as well as photograph taking are NOT allowed in session rooms nor in the exhibit and poster areas.

Time Zone

Korea is 9 hours ahead of Greenwich Mean Time (GMT +9) and does not observe daylight savings time.

Currency & Foreign Exchange

Currency in Korea is KRW(South Korean Won) and there are four bill nominations of 1,000, 5,000, 10,000 and 50,000 won. As of November 2022, 1 US dollar is equivalenet to 1,350 Korean Won.

Foreign currencies could be easily exchanged to KRW at airports, major hotels, bank branches and foreign exchange booths. Please refer to Currency Converter on the Internet for the latest exchange rate.

Credit Cards

Major credit cards like VISA, Master Card, American Express and Diners Club are widely accepted, but some small shops, restaurants and traditional markets only accept cash. For cash withdrawal or exchange, banks and ATMs are easy to find throughout Korea.

Tipping & Taxes

Tipping is not a Korean custom. A 10% service charge is added to your bill at all tourist hotels and tips are not expected. It is not necessary to tip a taxi driver unless he assists you with luggage or provides extra service. Visitors can receive a refund on a receipt for a minimum purchase of KRW 30,000.

Electricity

Standard electricity supply is 220 volts AC at 60Hz (with 2 round holes). Some hotels may provide outlet converters for 110 and 220 volts. Participants are advised to check with the hotel beforehand or bring an adapter.

Smoking Policy

Smoke free Area

Prayer Room

3rd Floor (Near by Conference Room E)
Opening Hours: 03:00-22:00

Internet Access

As a leading nation in information technology, Korea provides one of the best internet connections worldwide. Take privilege of the world's fastest internet speed through Wi-Fi for your convenience during your time in Korea.

- At Coex: Choose "COEX Free Wi-Fi Zone" or "SK wifi zone 5G" (ID: apsr2022 / PW: seoul2022) on your mobile device.
- At Starfield Coex Mall: Choose "Public Wi-Fi Free" on your mobile device.

Secretariat Office

Service are available in room 205A during business hours :

Wednesday 16 November	07:00-22:00
Thursday 17 November	06:30-22:00
Friday 18 November	06:30-22:00
Saturday 19 November	06:30-22:00
Sunday 20 November	06:30-15:00

Registration & Tours & Accommodation

Grand Ballroom Lobby during business hours:

Wednesday 16 November	14:00-17:00
Thursday 17 November	07:30-18:00
Friday 18 November	07:30-18:00
Saturday 19 November	07:30-18:00
Sunday 20 November	07:30-13:00

FAPSR Lounge

Service are available in room 210 during business hours:

Thursday 17 November	09:30-18:00
Friday 18 November	09:30-18:00
Saturday 19 November	09:30-18:00
Sunday 20 November	09:00-13:00

Preview Room & Speaker's Lounge (201)

Speakers may preview and upload their presentation(s) in room 201 during business hours:

Wednesday 16 November	14:00-18:00
Thursday 17 November	08:00-18:00
Friday 18 November	07:30-18:00
Saturday 19 November	07:30-18:00
Sunday 20 November	07:30-13:00

Venue

Address.	513, Yeongdong-daero, Gangnam-gu, Seoul 06164, Korea
Tel.	+82-2-6000-0114
Website.	https://www.coexcenter.com
Map.	https://goo.gl/maps/SFuprQpckL2bDp7H6

OPENING CEREMONY AND SOCIAL PROGRAMS

Opening Ceremony & Welcome Reception

All registered participants and exhibitors are cordially invited to the Opening Ceremony. You are kindly requested to wear your badge for recognition. After the Opening Ceremony, all attendees are invited to attend the Welcome Reception, giving you a taste of Korea.

Date: Thursday 17 November 2022
Time: 17:30-20:30
Venue: Hall D1, 3F, Coex
Entrance: All Delegates
Dress Code: Business casual

Gala Dinner

Catch up with experts from all over the globe and enjoy the selection of Korean cuisines during the dinner. Award winners will be presented at the event.

Date: Saturday 19 November 2022
Time: 19:30-21:30
Venue: Hall D1, 3F, Coex
Entrance: Invitation and ticket only
Dress Code: Business casual

Closing Ceremony

Next congress will be introduced during Closing Ceremony.

Date: Sunday 20 November 2022
Time: 12:50-13:20
Venue: Grand Ballroom 103,1F, Coex
Entrance: All Delegates
Dress Code: Business casual

APSR ASSEMBLY MEETINGS

Friday 18 November 2022, 17:30-19:00

Location		Assembly
2nd FL	206A	Pulmonary Circulation
	206B	Respiratory Neurobiology and Sleep
	207	Cell and Molecular Biology
	211	Asthma
3rd FL	R1	Respiratory Infections (non-tuberculous)
	R2	COPD
4th FL	R3	Interstitial Lung Disease
	R4	Clinical Respiratory Medicine

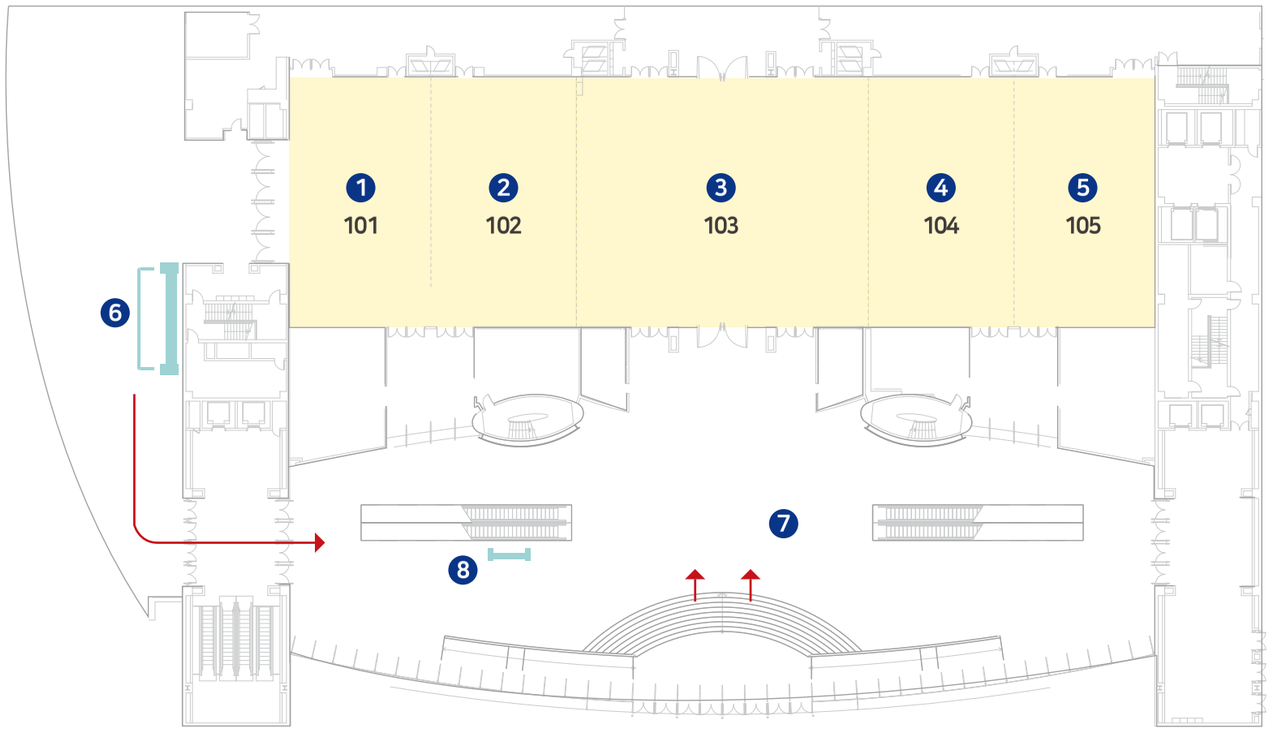
Saturday 19 November 2022, 17:30-19:00

Location		Assembly
2nd FL	206A	Respiratory Structure and Function
	206B	Paediatric Lung Disease
	207	Clinical Allergy & Immunology
	211	Environmental & Occupational Health and Epidemiology
3rd FL	R1	Tuberculosis
	R2	Lung Cancer
4th FL	R3	Critical Care Medicine
	R4	Bronchoscopy and Interventional Techniques

APSR Annual General Meeting (AGM)

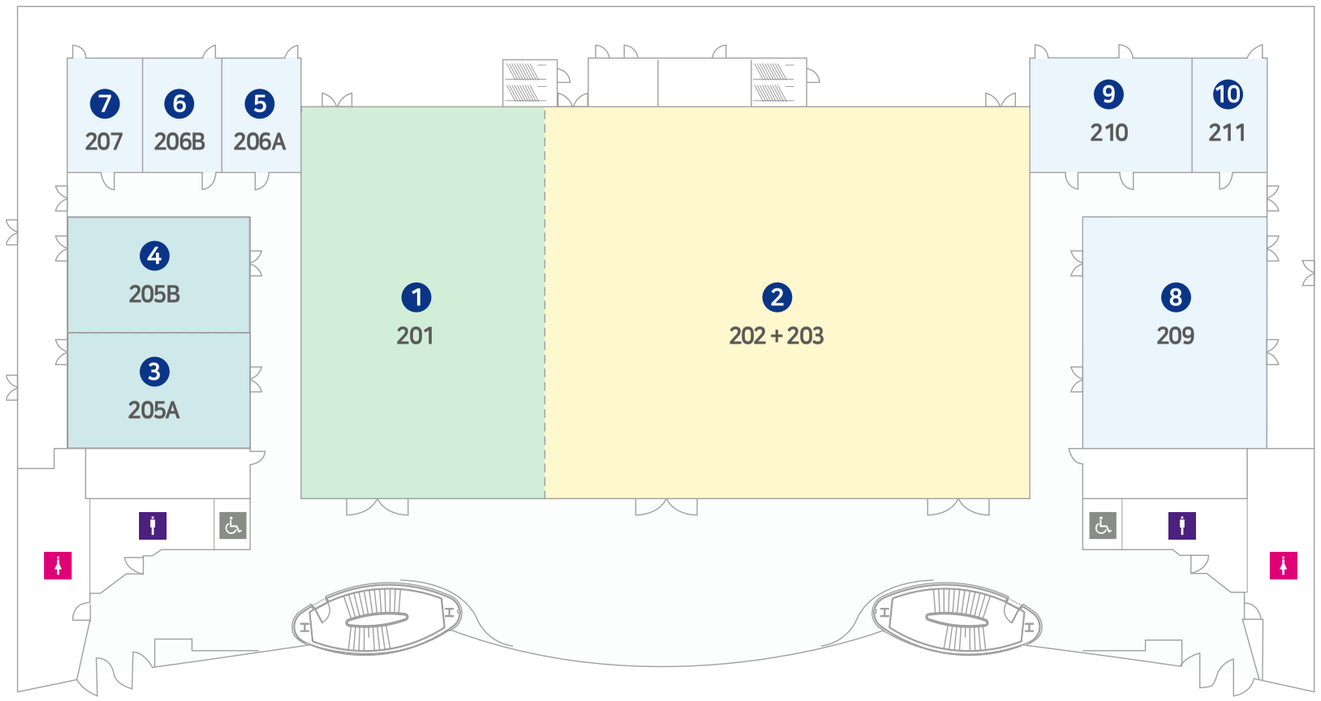
Thursday17 November, 16:45-17:15	Location: 2nd FL 209A&B

1st Floor



1 Pre-congress Workshop, Assembly Symposium, Industrial Symposium	5 Pre-congress Workshop, Industrial Symposium, Oral Session
2 Pre-congress Workshop, Assembly Symposium, Industrial Symposium	6 Registration
3 Pre-congress Workshop, Assembly Symposium, Industrial Symposium, Oral Session	7 Company Lounge
4 Pre-congress Workshop, Industrial Symposium, Young Investigator Awards, Oral Session	8 KTO Promotion Booth

2nd Floor

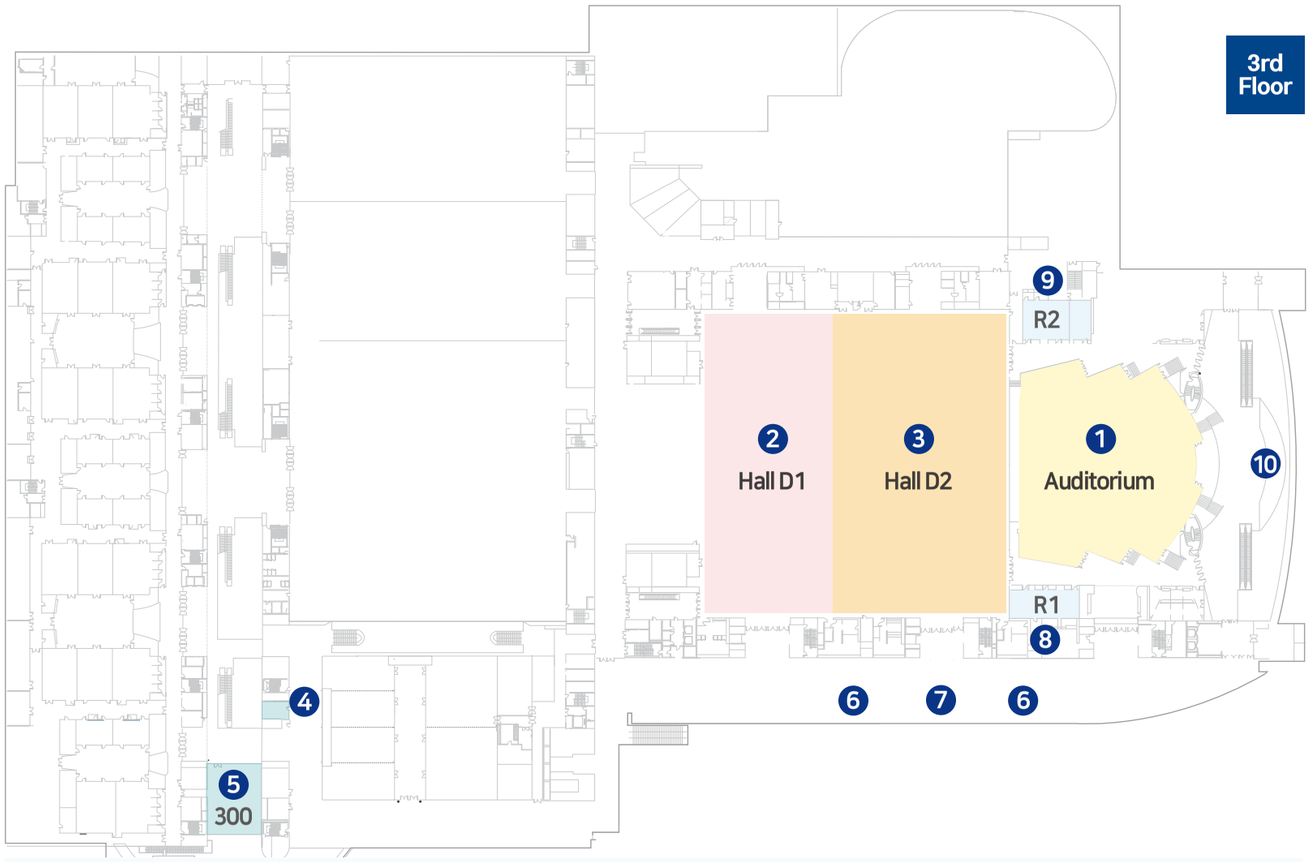


1 Preview Room and Speaker Lounge	5 6 7 APSR Assembly Meeting
2 Industrial Symposium, Oral Session	8 APSR Business Meeting
3 Secretariat	9 FAPSR Lounge
4 VIP & LCC Room	10 APSR Assembly Meeting

APSR 2022

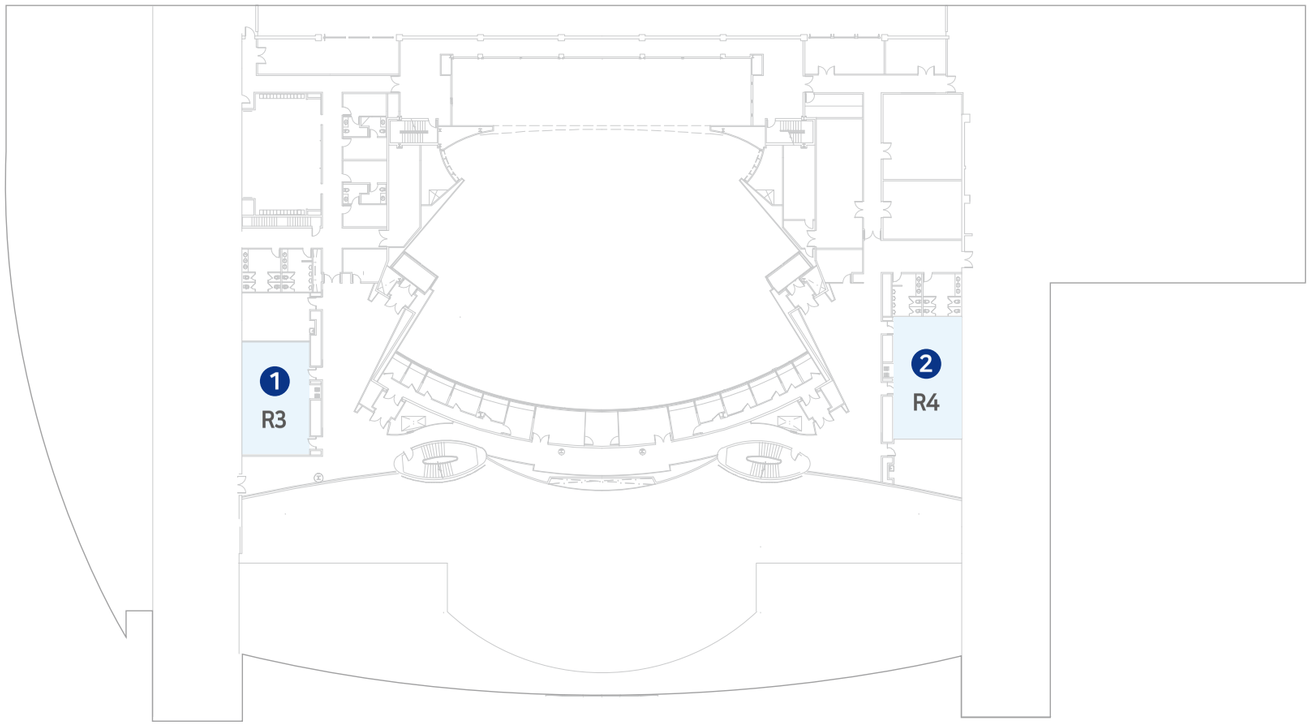
VENUE MAP

3rd Floor



1 Plenary Lecture, Assembly Symposium	5 Big 5 Lung Diseases Workshop
2 Opening Ceremony, Welcome Reception and Gala Dinner	6 Poster Exhibition
3 Exhibition	7 10 Company Lounge
4 Prayer Room	8 9 APSR Assembly Meeting

4th Floor



1 APSR Assembly Meeting	2 APSR Assembly Meeting

APSR 2022

APSR 2022

17-20 November 2022

Coex, Seoul, Korea

APSR 2022

The 26th Congress of the
Asian Pacific Society of Respirology

SCIENTIFIC PROGRAM

- PROGRAM AT-A-GLANCE 46
- DAILY PROGRAM
  - 17 November 51
  - 18 November 55
  - 19 November 65
  - 20 November 75

PROGRAM AT-A-GLANCE

Time/Room	Auditorium (3F)	Grand Ballroom 101 (1F)	Grand Ballroom 102 (1F)	Grand Ballroom 103 (1F)	Grand Ballroom 104 (1F)
Thursday 17 November 2022					
09:00-12:00		Pre-congress Workshop 1 (Hands on Session)		Pre-congress Workshop 2	Pre-congress Workshop 3
		Critical Care Medicine		Lung Cancer	COPD
12:15-13:45		Lunch			
14:00-17:00		Pre-congress Workshop 5 (Hands on Session)		Pre-congress Workshop 6	Pre-congress Workshop 7
		Bronchoscopy and Interventional Techniques		Pulmonary Circulation	Asthma
17:30-20:30					
Friday 18 November 2022					
08:10-09:10	Presidential Lecture 1 Presidential Lecture 2				
09:20-10:50	Symposium 1 COPD	Symposium 2 Tuberculosis	Symposium 3 Critical Care Medicine	Symposium 4 Lung Cancer	Oral 1 Asthma
10:50-11:10	Coffee Break				
11:10-12:40	Symposium 5 Asthma	Symposium 6 Bronchoscopy and Interventional Techniques	Symposium 7 Pulmonary Circulation	Symposium 8 Interstitial Lung Disease	Oral 4 Tuberculosis
12:50-13:50		Luncheon Symposium 1 Sponsored by DAEWON Pharmaceutical Co., Ltd.	Luncheon Symposium 2 Sponsored by Boehringer Ingelheim Korea	Luncheon Symposium 3 Sponsored by GSK	Luncheon Symposium 4 Sponsored by AstraZeneca Korea
14:00-15:30	Symposium 9 Clinical Respiratory Medicine	Symposium 10 Environmental & Occupational Health and Epidemiology	Symposium 11 Respiratory Neurobiology and Sleep	Symposium 12 Respiratory Infections (non-tuberculous)	Oral 7 COPD
15:30-15:50	Coffee Break				
15:50-17:20	Symposium 13 Asthma	Symposium 14 Cell and Molecular Biology	Symposium 15 Lung Cancer	Symposium 16 Interstitial Lung Disease	Young Investigator Awards 1
17:30-18:30		Evening Symposium 1 Sponsored by OLYMPUS KOREA CO., LTD	Evening Symposium 2 Sponsored by Thermo Fisher Scientific Korea	Evening Symposium 3 Sponsored by Boryung Co.	Evening Symposium 4 Sponsored by GSK
18:30-19:00					

Time/Room	Grand Ballroom 105 (1F)	ASEM Ballroom 202+203 (2F)	206A, 206B, 207, 211 (2F), 300 (3F) / R1, R2 (3F) / R3, R4 (4F), Etc.	Hall D (3F)	Hall D Foyer (3F)
Thursday 17 November 2022					
09:00-12:00	Pre-congress Workshop 4 Tuberculosis		BIG 5 LUNG DISEASES WORKSHOP organised by APSR, UNION APR, WHO SEARO and WHO WPRO Room 300 (3F) 09:00-16:00		
12:15-13:45	Lunch				
14:00-17:00	Pre-congress Workshop 8 Interstitial Lung Disease				
17:30-20:30				Opening Ceremony & Welcome Reception (Hall D1)	
Friday 18 November 2022					
08:10-09:10					
09:20-10:50	Oral 2 Cell and Molecular Biology	Oral 3 Interstitial Lung Disease		Exhibiton (Hall D2) 09:00-17:00	Poster Exhibition Day 1
10:50-11:10	Coffee Break				
11:10-12:40	Oral 5 Lung Cancer	Oral 6 Respiratory Infections (non-tuberculous)			
12:50-13:50	Luncheon Symposium 5 Sponsored by sanofi	Luncheon Symposium 6 Sponsored by YUHAN			
14:00-15:30	Oral 8 Lung Cancer	Oral 9 Interstitial Lung Disease			
15:30-15:50	Coffee Break				
15:50-17:20	Oral 10 COPD	Oral 11 Critical Care Medicine			
17:30-18:30	Evening Symposium 5 Sponsored by GSK	Evening Symposium 6 Sponsored by Boehringer Ingelheim Korea	APSR Assembly Meetings		
18:30-19:00					

Time/Room	Auditorium (3F)	Grand Ballroom 101 (1F)	Grand Ballroom 102 (1F)	Grand Ballroom 103 (1F)	Grand Ballroom 104 (1F)
Saturday 19 November 2022					
08:10-09:10	Memorial Lecture 1 Memorial Lecture 2				
09:20-10:50	Symposium 17 COPD	Symposium 18 Tuberculosis	Symposium 19 Paediatric Lung Disease	Symposium 20 Lung Cancer	Oral 12 Asthma
10:50-11:10	Coffee Break				
11:10-12:40	Symposium 21 Asthma	Symposium 22 Clinical Respiratory Medicine	Symposium 23 Respiratory Structure and Function	Oral 15 Respiratory Infections (non-tuberculous)	Oral 16 Tuberculosis
12:50-13:50		Luncheon Symposium 7 Sponsored by KOLON PHARMA	Luncheon Symposium 8 Sponsored by Boehringer Ingelheim Korea	Luncheon Symposium 9 Sponsored by Boryung Co.	Luncheon Symposium 10 Sponsored by AstraZeneca Korea
14:00-15:30	Symposium 24 COPD	Symposium 25 Respiratory Infections (non-tuberculous)	Symposium 26 Critical Care Medicine	Oral 18 Environmental & Occupational Health and Epidemiology	Oral 19 Tuberculosis
15:30-15:50	Coffee Break				
15:50-17:20	Symposium 27 Interstitial Lung Disease	Symposium 28 Environmental & Occupational Health and Epidemiology	Symposium 29 Clinical Allergy & Immunology	Oral 22 Respiratory Infections (non-tuberculous)	Young Investigator Awards 2
17:30-18:30		Evening Symposium 7 Sponsored by bioMerieux Asia Pacific Pte Ltd	Evening Symposium 8 Sponsored by Abbott Korea	Evening Symposium 9 Sponsored by GSK	Evening Symposium 10 Sponsored by Ildong Pharmaceutical
18:30-19:00					
19:30-21:30					
Sunday 20 November 2022					
08:10-09:10	Keynote Lecture Invited Lecture				
09:20-10:50	APSR - GOLD Joint Session 09:20-11:00	Symposium 30 Critical Care Medicine	Symposium 31 Lung Cancer	Symposium 32 Interstitial Lung Disease	Oral 25 Clinical Respiratory Medicine
10:50-11:10		Coffee Break			
11:10-12:40		Symposium 33 Asthma	Symposium 34 Clinical Respiratory Medicine	Symposium 35 COPD	Oral 27 Respiratory Structure and Function
12:50-13:20				Closing Ceremony	

Time/Room	Grand Ballroom 105 (1F)	ASEM Ballroom 202+203 (2F)	206A, 206B, 207, 211 (2F) 300 (3F) / R1, R2 (3F) / R3, R4 (4F), Etc.	Hall D (3F)	Hall D Foyer (3F)
Saturday 19 November 2022					
08:10-09:10					
09:20-10:50	Oral 13 Pulmonary Circulation	Oral 14 Critical Care Medicine		Exhibiton (Hall D2) 09:00-17:00	Poster Exhibition Day 2
10:50-11:10	Coffee Break				
11:10-12:40	Oral 17 Lung Cancer	JRS Symposium			
12:50-13:50	Luncheon Symposium 11 Sponsored by MSD Korea	Luncheon Symposium 12 Sponsored by Novartis			
14:00-15:30	Oral 20 Clinical Allergy & Immunology	Oral 21 Respiratory Neurobiology and Sleep			
15:30-15:50	Coffee Break				
15:50-17:20	Oral 23 COPD	Oral 24 Bronchoscopy and Interventional Techniques			
17:30-18:30	Evening Symposium 11 Sponsored by sanofi	Evening Symposium 12 Sponsored by YUHAN	APSR Assembly Meetings		
18:30-19:00					
19:30-21:30				Gala Dinner (Hall D1)	
Sunday 20 November 2022					
08:10-09:10					
09:20-10:50	Oral 26 Paediatric Lung Disease			Exhibiton (Hall D2) 09:00-12:00	
10:50-11:10	Coffee Break				
11:10-12:40	Oral 28 Respiratory Infections (non-tuberculous)				
12:50-13:20					

APSR 2022

17-20 November 2022
Coex, Seoul, Korea

SCIENTIFIC PROGRAM

17 November

Pre-congress Workshop 1	09:00-12:00	Grand Ballroom 101 +102 (1F)
Critical Care Medicine		
Chair	**Sunghoon Park** (Hallym University College of Medicine, Republic of Korea)	
09:00-09:20	PW01-1	**Pre-survey & Basic Approach of PoCUS in ICU** **Young-Jae Cho** (Seoul National University College of Medicine, Republic of Korea)
09:20-09:40	PW01-2	**Lung US for Respiratory Failure** **Jinwoo Lee** (Seoul National University Hospital, Republic of Korea)
09:40-10:00	PW01-3	**POCUS in Pleural Disease** **Tai Joon An** (Yeouido St. Mary Hospital, College of Medicine, Catholic University of Korea, Republic of Korea)
10:00-10:20	PW01-4	**POCUS in COVID-19 Pneumonia** **Sung Yoon Lim** (Seoul National University College of Medicine, Republic of Korea)
10:20-10:40	PW01-5	**POCUS in MV Weaning** **Kyung Soo Chung** (Severance Hospital, Republic of Korea)
10:40-11:40	PW01-6	**Simulation of Various Clinical Cases (Hands-on)** **Young-Jae Cho, Jinwoo Lee, Tai Joon An, Sung Yoon Lim, Kyung Soo Chung, Ji-Eun Park**
11:40-12:00	PW01-7	**Wrap up & Post Survey** **Ji-Eun Park** (Ajou University School of Medicine, Republic of Korea)

Pre-congress Workshop 2	09:00-12:00	Grand Ballroom 103 (1F)
Lung Cancer		
Chair	**Yoon Soo Chang** (Yonsei University College of Medicine, Republic of Korea)	
09:00-09:30	PW02-1	**History and Current Status of National Lung Cancer Screening Program in Korea** **Yeol Kim** (National Cancer Center, Republic of Korea)
09:30-10:00	PW02-2	**USPSTF Lung Cancer Screening** **Patricia Rivera** (University of Rochester Medical Center, U.S.A.)
10:00-10:30	PW02-3	**Optimal Management of Pulmonary Nodules** **Yeon Wook Kim** (Seoul National University, College of Medicine, Republic of Korea)
10:30-11:00	PW02-4	**Blood-Based Biomarkers** **Chaeuk Chung** (Chungnam National University, College of Medicine, Republic of Korea)

Pre-congress Workshop 3

09:00-12:00 | Grand Ballroom 104 (1F)

COPD

Chair		Yeon-Mok Oh (University of Ulsan College of Medicine, Republic of Korea)
09:00-09:30	PW03-1	**Genetics of COPD** **Woo Jin Kim** (Kangwon National University, Republic of Korea)
09:30-10:00	PW03-2	**What is Early COPD and Why is It Important?** **Youlim Kim** (Konkuk University School of Medicine, Republic of Korea)
10:00-10:30	PW03-3	**Natural History of COPD** **Joo Hun Park** (Ajou University School of Medicine, Republic of Korea)
10:30-11:00	PW03-4	**COPD & Microbiome** **Se Hee Lee** (CHA University, Republic of Korea)
11:00-11:30	PW03-5	**Goals of COPD Treatment; Focus on Symptom and Exacerbation** **Deog Kyeom Kim** (Seoul National University College of Medicine, Republic of Korea)
11:30-12:00	PW03-6	**What is COPD Exacerbation?** **Current Definition, Pitfalls, Challenges and Opportunities for Improvement** **Richard Russell** (University of Oxford, United Kingdom)

Pre-congress Workshop 4

09:00-12:00 | Grand Ballroom 105 (1F)

Tuberculosis

Chair		Seung Heon Lee (Korea University College of Medicine, Republic of Korea)
09:00-09:30	PW04-1	**Global Diagnostic Gap in TB** **Neil Schluger** (Tuberculosis Control Branch, California Department of Public Health, U.S.A.)
09:30-10:00	PW04-2	**Rapid Molecular Diagnosis of TB and Drug Resistance** **Chang Ki Kim** (Seoul Clinical Laboratories, Republic of Korea)
10:00-10:30	PW04-3	**The Role of WGS/NGS in TB Diagnosis and Transmission** **Jann-Yuan Wang** (National Taiwan University, Taiwan)
10:30-11:00	PW04-4	**The Role of Chest Image and Advances in TB Diagnosis** **Soon Ho Yoon** (Seoul National University College of Medicine, Republic of Korea)
11:00-11:30	PW04-5	**Non-Sputum Based Diagnosis of TB** **Satoshi Mitarai and Seiya Kato** (The Research Institute of Tuberculosis, Japan)
11:30-12:00	PW04-6	**Diagnostic Challenge in Pediatric TB (including LTBI)** **Byeong Wook Eun** (Nowon Euji Medical Center, Republic of Korea)

Pre-congress Workshop 5

14:00-17:00 | Grand Ballroom 101 +102 (1F)

Bronchoscopy and Interventional Techniques (Hands on Session)

Chair		Young Sik Park (Seoul National University College of Medicine, Republic of Korea)
14:00-17:00	PW05-1	**Bronchial Branch Tracing First step for RP-EBUS procedures** **Jung Seop Eom** (Pusan National University Hospital, Republic of Korea)
	PW05-2	**How to perform TBLB using radial probe EBUS** **June Hong Ahn** (Yeungnam University Medical Center, Republic of Korea)
	PW05-3	**Hands on Practice** **Seung Hyun Yong** (Yonsei University College of Medicine, Republic of Korea)

Pre-congress Workshop 6

14:00-17:00 | Grand Ballroom 103(1F)

Pulmonary Circulation

Chairs		Yee Hyung Kim (Kyung Hee University School of Medicine, Republic of Korea) Hun-Gyu Hwang (Soonchunhyang University Gumi's Hospital, Republic of Korea)
14:00-14:30	PW06-1	**Natural History and Pathophysiology of VTE** **Jung-Wan Yoo** (Gyeongsang National University Hospital, Republic of Korea)
14:30-15:00	PW06-2	**Diagnosis and Management Algorithm for Acute PE** **Talant Sooronbaev** (National Center of Cardiology and Internal Medicine, Kyrgyzstan)
15:00-15:30	PW06-3	**Practical Guidance for Anticoagulation in the Treatment of VTE** **Hang Jea Jang** (Inje University Haeundae Paik Hospital, Republic of Korea)
15:30-16:00	PW06-4	**Evolution of PAH and CTEPH** **Nick Kim** (Critical Care & Sleep Medicine, University of California San Diego, U.S.A.)
16:00-16:30	PW06-5	**Pulmonary Hypertension in Chronic Lung Disease** **Jae Seung Lee** (University of Ulsan College of Medicine, Republic of Korea)
16:30-17:00	PW06-6	**Pulmonary Arteriovenous Malformation** **Won-Young Kim** (Chung-Ang University Hospital, Republic of Korea)

Pre-congress Workshop 7		14:00-17:00	Grand Ballroom 104(1F)
Asthma			
Chair	**Ji-yong Moon** (Hanyang University College of Medicine, Republic of Korea)		
14:00-14:30	**PW07-1**	**Biomarkers of Asthma** **So Ri Kim** (Chonbuk National University Medical School, Republic of Korea)	
14:30-15:00	**PW07-2**	**Immunotherapy in Allergic Asthma** **Ga-Young Ban** (Hallym University College of Medicine, Republic of Korea)	
15:00-15:30	**PW07-3**	**Microbiome in Asthma** **Kyoung-Hee Sohn** (Kyung Hee University School of Medicine, Republic of Korea)	
15:30-16:00	**PW07-4**	**Asthma-COPD Overlap** **Hye Jung Park** (Gangnam Severance Hospital, Republic of Korea)	
16:00-16:30	**PW07-5**	**Biologic Therapy in Severe Asthma** **Joo-Hee Kim** (Hallym University College of Medicine, Republic of Korea)	
16:30-17:00	**PW07-6**	**Treatment Beyond Biologics in Severe Asthma** **Woo-Jung Song** (University of Ulsan College of Medicine, Republic of Korea)	

Pre-congress Workshop 8		14:00-17:00	Grand Ballroom 105(1F)
Interstitial Lung Disease			
Chair	**Jong Sun Park** (Seoul National University College of Medicine, Republic of Korea)		
14:00-14:30	**PW08-1**	**How to Approach to Patients with ILD?** **Byoungsoo Kwon** (Seoul National University College of Medicine, Republic of Korea)	
14:30-15:00	**PW08-2**	**Key HRCT Findings in ILDs for Pulmonologist** **Jung Hwa Hwang** (Soonchunhyang University College of Medicine, Republic of Korea)	
15:00-15:30	**PW08-3**	**Update of IPF: Diagnosis and Management** **Jae Ha Lee** (Inje University College of Medicine, Republic of Korea)	
15:30-16:00	**PW08-4**	**New Concept of Progressive Pulmonary Fibrosis: Definition and Management** **Won-Il Choi** (Myongji Hospital, Republic of Korea)	
16:00-16:30	**PW08-5**	**Update of Hypersensitivity Pneumonitis** **Hongseok Yoo** (Sungkyunkwan University School of Medicine, Republic of Korea)	
16:30-17:00	**PW08-6**	**Treatment Strategies for CTD Associated ILD** **Hye Sook Choi** (Kyung Hee University School of Medicine, Republic of Korea)	

Presidential Lecture		08:10-09:10	Auditorium (3F)
Chairs	**Yoichi Nakanishi** (Kitakyushu City Hospital Organization, Japan) **Ki-Suck Jung** (Hallym University College of Medicine, Republic of Korea)		
08:10-08:40	**PL01-1**	**Management of Progressive Fibrotic ILD** **Carlos Robalo Cordeiro** (University of Coimbra, Portugal)	
08:40-09:10	**PL01-2**	**Lung Cancer** **– Highlights on the Journey from Screening and Early Detection Through to Management** **David CL Lam** (The University of Hong Kong, Hong Kong)	

Symposium 1		09:20-10:50	Auditorium (3F)
COPD - Meet the Professor: Bronchoscopic Treatment of Emphysema			
Chair	**Chin Kook Rhee** (The Catholic University of Korea College of Medicine, Republic of Korea)		
09:20-10:50	**S01-1**	**The Art of Endobronchial Valve Insertion** **Karin Klooster** (University Medical Center Groningen, Kingdom of the Netherlands)	

Symposium 2		09:20-10:50	Grand Ballroom 101 (1F)
Tuberculosis - Where Are We for TB Management?			
Chairs	**Yi-Wen Huang** (Chung Shan Medical University, Taiwan) **Jae-Joon Yim** (Seoul National University College of Medicine, Republic of Korea)		
09:20-09:50	**S02-1**	**Changing Epidemiology of TB in Asia (in the Era of COVID-19)** **Kyung Hyun Oh** (World Health Organization Regional Office for the Western Pacific, Philippines)	
09:50-10:20	**S02-2**	**Recent Concept of Latent TB Infection and Its Clinical Implication** **Jann-Yuan Wang** (National Taiwan University, Taiwan)	
10:20-10:50	**S02-3**	**Role of New Drugs for TB Control** **Neil Schluger** (Tuberculosis Control Branch, California Department of Public Health, U.S.A.)	

Symposium 3		09:20-10:50	Grand Ballroom 102 (1F)
Critical Care Medicine - What's New in ARDS Management?			
Chairs	**Ming-Cheng Chan** (Taichung Veterans General Hospital, Taiwan) **Gee Young Suh** (Department of Pulmonology and Critical Care Medicine, Samsung Medical Center, Republic of Korea)		
09:20-09:50	**S03-1**	**VILI and p-SILI** **Ming-Cheng Chan** (Taichung Veterans General Hospital, Taiwan)	
09:50-10:20	**S03-2**	**EIT Monitoring in ARDS** **Atsuko Shono** (Showa University School of Medicine, Japan)	
10:20-10:50	**S03-3**	**When and How to Apply VV ECMO** **Chi Ryang Chung** (Samsung Medical Center, Republic of Korea)	

Symposium 4 — 09:20-10:50 — Grand Ballroom 103 (1F)

Lung Cancer - Meet the Professor

Chair		Sita Andarini (University of Indonesia, Persahabatan Hospital, Indonesia)
09:20-10:50	S04-1	**Natural history, diagnosis and treatment of driver mutations** **Kwun Fong** (The University of Queensland, Australia)

Symposium 5 — 11:10-12:40 — Auditorium (3F)

Asthma - ISAR in Asia Pacific

Chairs		Diahn-Warng Perng (Taipei Veterans General Hospital, Taiwan) Kwang Ha Yoo (Konkuk University School of Medicine, Republic of Korea)
11:10-11:40	S05-1	**Current ISAR State in Korea** **Kwang Ha Yoo** (Konkuk University School of Medicine, Republic of Korea)
11:40-12:10	S05-2	**Current ISAR State in Taiwan** **Diahn-Warng Perng** (Taipei Veterans General Hospital, Taiwan)
12:10-12:40	S05-3	**Current ISAR State in the World** **Ruth Murray** (Director Medscript Ltd NZ & Research Fellow, OPC, New Zealand)

Symposium 6 — 11:10-12:40 — Grand Ballroom 101 (1F)

Bronchoscopy and Interventional Techniques - Bronchoscopy; Present and Future

Chairs		Phan Nguyen (The Royal Brisbane and Women's Hospital, Australia) Hojoong Kim (Sungkyunkwan University School of Medicine, Republic of Korea)
11:10-11:40	S06-1	**Rigid Bronchoscopy for Benign and Malignant Diseases** **Hojoong Kim** (Sungkyunkwan University School of Medicine, Republic of Korea)
11:40-12:10	S06-2	**EBUS-TBNA for Lung Cancer Staging: An Update** **Bin Hwangbo** (National Cancer Center, Republic of Korea)
12:10-12:40	S06-3	**Advanced Bronchoscopy for the Peripheral Lesions** **Fumihiro Asano** (Gifu Prefectural General Medical Center, Japan)

Symposium 7 — 11:10-12:40 — Grand Ballroom 102 (1F)

Pulmonary Circulation - COVID-19 and Pulmonary Circulation

Chairs		Talant Sooronbaev (National Center of Cardiology and Internal Medicine, Kyrgyzstan) Yang-Ki Kim (Soonchunhyang University College of Medicine, Republic of Korea)
11:10-11:40	S07-1	**COVID-19 Associated Coagulopathy** **Hun-Gyu Hwang** (Soonchunhyang University Gumi's Hospital, Republic of Korea)
11:40-12:10	S07-2	**Prevention and Therapeutic Strategies for VTE in Patients with COVID-19** **Nick Kim** (Critical Care & Sleep Medicine, University of California San Diego, U.S.A.)
12:10-12:40	S07-3	**Differences in Pulmonary Circulation among COVID-19, HAPE (High Altitude Pulmonary Edema) and ARDS** **Talant Sooronbaev** (National Center of Cardiology and Internal Medicine, Kyrgyzstan)

Symposium 8 — 11:10-12:40 — Grand Ballroom 103 (1F)

Interstitial Lung Disease - Hot and Current Topics in ILD

Chairs		Takashi Ogura (Kanagawa Cardiovascular and Respiratory Center, Japan) Yangjin Jegal (University of Ulsan College of Medicine, Republic of Korea)
11:10-11:40	S08-1	**Health Effect of Air Pollution in ILD** **Sun-Young Kim** (National Cancer Center, Republic of Korea)
11:40-12:10	S08-2	**The Impact of COVID-19 on Patients with Underlying Interstitial Lung Disease (ILD)** **Takashi Ogura** (Kanagawa Cardiovascular and Respiratory Center, Japan)
12:10-12:40	S08-3	**Progressive Pulmonary Fibrosis: Where are We Now?** **Jin Woo Song** (University of Ulsan College of Medicine, Republic of Korea)

Symposium 9 — 14:00-15:30 — Auditorium (3F)

Clinical Respiratory Medicine - with COVID-19

Chairs		Ki-Suck Jung (Hallym University College of Medicine, Republic of Korea) Jae Yeol Kim (Chung-Ang University College of Medicine, Republic of Korea)
14:00-14:30	S09-1	**Post-Covid Sequalae** **Eun Young Heo** (Seoul National University College of Medicine, Republic of Korea)
14:30-15:00	S09-2	**COVID-19 and Lung fibrosis** **Hee-Young Yoon** (Soonchunhyang University College of Medicine, Republic of Korea)
15:00-15:30	S09-3	**Covid & Airway Diseases** **Seok Jeong Lee** (Yonsei University Wonju College of Medicine, Republic of Korea)

Symposium 10 — 14:00-15:30 — Grand Ballroom 101 (1F)

Environmental & Occupational Health and Epidemiology - Climate Change and Respiratory Diseases

Chairs		Yuming Guo (School of Public Health and Preventive Medicine, Monash University, Australia) HyoungKyu Yoon (The Catholic University of Korea College of Medicine, Republic of Korea)
14:00-14:30	S10-1	**Global Trends in Climate Change** **Ho Kim** (Graduate School of Public Health, Seoul National University, Republic of Korea)
14:30-15:00	S10-2	**Role of Climate Change and Viral Infection on Seasonality of Mortality** **Lina Madaniyazi** (Nagasaki University, Japan)
15:00-15:30	S10-3	**Asia-Pacific Aspect of Climate Change** **Yuming Guo** (School of Public Health and Preventive Medicine, Monash University, Australia)

Symposium 11 | 14:00-15:30 | Grand Ballroom 102 (1F)

Respiratory Neurobiology and Sleep - Personalised Approach to Treatment of Sleep Apnea

Chair	**Chol Shin** (Korea University College of Medicine, Republic of Korea)	
14:00-14:30	**S11-1**	**Treatment strategies for asymptomatic OSA** **Sei Won Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)
14:30-15:00	**S11-2**	**Current Practice and Future Directions in Sleep Apnea Treatment** **Motoo Yamauchi** (Nara Medical University, Japan)
15:00-15:30	**S11-3**	**Is the Apnea-Hypopnea Index Sufficient to Predict the Severity of Sleep Apnea? And What Else?** **Sang Haak Lee** (Eunpyeong St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Republic of Korea)

Symposium 12 | 14:00-15:30 | Grand Ballroom 103 (1F)

Respiratory Infections (non-tuberculous) - Frontiers in Respiratory Infection

Chairs	**Jung-Yien Chien** (National Taiwan University Hospital, National Taiwan University College of Medicine, Taiwan) **Soo-Jung Um** (Dong-A University College of Medicine, Republic of Korea)	
14:00-14:30	**S12-1**	**Effect of AI-Chest PA Diagnosis on Emergency Physicians** **Won Chul Cha** (Samsung Medical Center, Sungkyunkwan University School of Medicine, Republic of Korea)
14:30-15:00	**S12-2**	**The Role of Multiplex PCR on the Management of Ventilator Associated Pneumonia?** **Jung-Yien Chien** (National Taiwan University Hospital, National Taiwan University College of Medicine, Taiwan)
15:00-15:30	**S12-3**	**Phages and Endolysins as Novel Antibacterials** **Hee Joon Myung** (Lysentech, Republic of Korea)

Symposium 13 | 15:50-17:10 | Auditorium (3F)

Asthma - Pro/Con: As Needed ICS-Formoterol in Step 2 Treatment of Asthma

Chair	**Yeon-Mok Oh** (University of Ulsan College of Medicine, Republic of Korea)	
15:50-15:55	**Introduction & Voting**	
15:55-16:15	**S13-1**	**Pro: As Needed ICS-Formoterol in Step 2 Treatment of Asthma** **Phuong Phan Thu** (Bach Mai Hospital, Viet Nam)
16:15-16:35	**S13-2**	**Con: As Needed ICS-Formoterol in Step 2 Treatment of Asthma** **Mi-Ae Kim** (CHA University, Republic of Korea)
16:35-16:50	**Comment**	
16:50-17:05	**Q&A**	
17:05-17:10	**Voting & Closing**	

Symposium 14 | 15:50-17:20 | Grand Ballroom 101 (1F)

Cell and Molecular Biology - New Potential Therapeutics in Respiratory Diseases: From Bench to Clinic

Chairs	**Gregory P. Downey** (University of Colorado School of Medicine, U.S.A.) **Chul-Gyu Yoo** (Seoul National University College of Medicine, Republic of Korea)	
15:50-16:20	**S14-1**	**Mitochondrial Regulation of Innate Immune Signaling and Pulmonary Diseases** **Min-Jong Kang** (Yale University, U.S.A.)
16:20-16:50	**S14-2**	**Immune Mechanisms Driving Pulmonary and Systemic Inflammation in COVID-19** **Gregory P. Downey** (University of Colorado School of Medicine, U.S.A.)
16:50-17:20	**S14-3**	**When Bronchoscopy Meet Cancer Immunotherapy: Photoimmunotherapy in Lung Cancer** **Kazuhide Sato** (Nagoya University, Japan)

Symposium 15 | 15:50-17:20 | Grand Ballroom 102 (1F)

Lung Cancer - Recent Updated Immunotherapy

Chairs	**Patricia Rivera** (University of Rochester Medical Center, U.S.A.) **Sei Hoon Yang** (Wonkwang University School of Medicine, Republic of Korea)	
15:50-16:20	**S15-1**	**Immunotherapy Related Pneumonitis** **Patricia Rivera** (University of Rochester Medical Center, U.S.A.)
16:20-16:50	**S15-2**	**Integration of Radiotherapy with Immunotherapy for Non-Small Cell Lung Cancer: A Radiation Oncologist's Perspective** **Sungjune Kim** (H. Lee Moffitt Cancer Center, U.S.A.)
16:50-17:20	**S15-3**	**The Role of Immune Checkpoint Inhibitors in Small Cell Lung Cancer** **In-Jae Oh** (Chonnam National University, Republic of Korea)

Symposium 16 | 15:50-17:10 | Grand Ballroom 103 (1F)

Interstitial Lung Disease – Pro/Con: Controversy in Corticosteroid Pulse Therapy for the Treatment of AE of IPF

Chair	**Sung-Woo Park** (Soonchunhyang University College of Medicine, Republic of Korea)	
15:50-15:55	**Introduction & Voting**	
15:55-16:15	**S16-1**	**Pro: Corticosteroid Pulse Therapy Should be Included in Treatment of Acute Exacerbation of IPF** **Yasuhiro Kondoh** (Tosei General Hospital, Japan)
16:15-16:35	**S16-2**	**Con: Corticosteroid Pulse Therapy is Not Necessary in Treatment of Acute Exacerbation of IPF** **Moo Suk Park** (Yonsei University College of Medicine, Republic of Korea)
16:35-16:50	**Comment**	
16:50-17:05	**Q&A**	
17:05-17:10	**Voting & Closing**	

Luncheon Symposium 1

12:50-13:50 | Grand Ballroom 101 (1F)

Sponsored by DAEWON Pharmaceutical Co., Ltd.

Acute Bronchitis

Chair	**Jae Jeong Shim** (Korea University College of Medicine, Republic of Korea)	
12:50-13:50	**LS01-1**	**Clinical Value and Advantages of New Antitussive** **Seong Yong Lim** (Sungkyunkwan University School of Medicine, Republic of Korea)

Luncheon Symposium 2

12:50-13:50 | Grand Ballroom 102 (1F)

Sponsored by Boehringer Ingelheim Korea

IPF - Evidence-Based Approach in Early Treatment for IPF

Chair	**Man Pyo Chung** (Sungkyunkwan University School of Medicine, Republic of Korea)	
12:50-12:55	**Welcome & Introduction**	
12:55-13:25	**LS02-1**	**Clinical Course of IPF & Evidence Based Approach in Early Treatment for IPF with RWE Patient Cases** **Martin Kolb** (McMaster University, Canada)
13:25-13:45	**Discussion**	· **Man Pyo Chung** (Sungkyunkwan University School of Medicine, Republic of Korea) · **Amornpun Wonqkarnjana** (King Chualongkorn Memorial Hospital, Thailand) · **Martin Kolb** (McMaster University, Canada)
13:45-13:50	**Summary & Conclusion**	

Luncheon Symposium 3

12:50-13:50 | Grand Ballroom 103 (1F)

Sponsored by GSK

COPD

Chair	**Gregory King** (Royal North Shore Hospital, Australia)	
12:50-13:15	**LS03-1**	**Importance of Maximal Bronchodilation from the Start** **Hye Yun Park** (Sungkyunkwan University School of Medicine, Republic of Korea)
13:15-13:40	**LS03-2**	**The Real World Evidence of Single Inhaler Triple Therapy** **Gregory King** (Royal North Shore Hospital, Australia)
13:40-13:50	**Q&A**	

Luncheon Symposium 4

12:50-13:50 | Grand Ballroom 104 (1F)

Sponsored by AstraZeneca Korea

COPD

Chair	**Kwang Ha Yoo** (Konkuk University School of Medicine, Republic of Korea)	
12:50-13:50	**LS04-1**	**Management Strategies to Reduce the Clinical Burden of COPD** **Mona Bafadhel** (King's College London, United Kingdom)

Luncheon Symposium 5

12:50-13:50 | Grand Ballroom 105 (1F)

Sponsored by sanofi

Asthma

Chair	**HyoungKyu Yoon** (The Catholic University of Korea College of Medicine, Republic of Korea)	
12:50-13:50	**LS05-1**	**Evolution in the Management of Severe Asthma** **Chin Kook Rhee** (The Catholic University of Korea College of Medicine, Republic of Korea)

Luncheon Symposium 6

12:50-13:50 | ASEM Ballroom 202+203 (2F)

Sponsored by YUHAN

Cancer

Chair	**Jae Cheol Lee** (University of Ulsan College of Medicine,Republic of Korea)	
12:50- 13:50	**LS06-1**	**New Era of NSCLC EGFR Mutation Treatment Updated Overall Survival Analysis: 3G EGFR TKI Lazertinib** **Sung Yong Lee** (Korea University College of Medicine, Republic of Korea)

Evening Symposium 1

17:30-18:30 | Grand Ballroom 101 (1F)

Sponsored by OLYMPUS KOREA CO., LTD

Bronchoscopy and Interventional Techniques

Chair	**Bin Hwangbo** (National Cancer Center, Republic of Korea)	
17:30-18:30	**ES01-1**	**Clinical Tips for Transbronchial Biopsy Using Radial Probe EBUS** **Jung Seop Eom** (Pusan National University Hospital, Republic of Korea)

Evening Symposium 2

17:30-18:30 | Grand Ballroom 102 (1F)

Sponsored by Thermo Fisher Scientific Korea

Procalcitonin

Chair	**Gee Young Suh** (Department of Pulmonology and Critical Care Medicine, Samsung Medical Center, Republic of Korea)	
17:30-18:30	**ES02-1**	**Procalcitonin Usefulness to Monitor ABx for Pneumonia Patients** **Stefano Aliberti** (University of Millan, Italy)

Evening Symposium 3

17:30-18:30 | Grand Ballroom 103 (1F)

Sponsored by Boryung Co.

Carbapenem Sparing

Chair	**Sang Bum Hong** (University of Ulsan College of Medicine, Republic of Korea)	
17:30-18:30	**ES03-1**	**HAP & VAP: Importance of Carbapenem-sparing Strategy** **Bong Young Kim** (Hanyang University Hospital, Republic of Korea)

Evening Symposium 4

17:30-18:30 | Grand Ballroom 104 (1F)

Sponsored by GSK

Severe Asthma

Chair	**Yeon-Mok Oh** (University of Ulsan College of Medicine, Republic of Korea)	
17:30-17:55	**ES04-1**	**The Clinical Development of Mepolizumab in Severe Asthma: The First Treatment Targeting a Specific Treatable Trait** **Ian Pavord** (University of Oxford, United Kingdom)
17:55-18:20	**ES04-02**	**The Clinical Benefits of Mepolizumab for Severe Eosinophilic Asthma in Real-World Study** **Gregory King** (Royal North Shore Hospital, Australia)
18:20-18:30	**Q&A**	

Evening Symposium 5

17:30-18:30 | Grand Ballroom 105 (1F)

Sponsored by GSK

Infectious Diseases

Chair	**Eunjo Choo** (Soonchunhyang University Hospital Bucheon, Republic of Korea)	
17:30-18:30	**ES05-1**	**Shingles Vaccine in COPD, Asthma Patient (Infectious Diseases)** **Sunghee Park** (Soonchunhyang University Hospital Bucheon, Republic of Korea)

Evening Symposium 6

17:30-18:30 | ASEM Ballroom 202 + 203 (2F)

Sponsored by Boehringer Ingelheim Korea

COPD - Current Pharmacological Approaches in COPD

Chair	**Yong Bum Park** (Hallym University College of Medicine, Republic of Korea)	
17:30-17:35	**Opening**	
17:35-17:50	**ES06-1**	**Current Therapeutic Approaches in COPD** **Youlim Kim** (Konkuk University School of Medicine, Republic of Korea)
17:50-18:05	**ES06-2**	**Device Selection for COPD** **James Chalmers** (University of Dundee, United Kingdom)
18:05-18:20	**ES06-3**	**"Keep the Balance" in ICS Containing Regimens** **James Chalmers** (University of Dundee, United Kingdom)
18:20-18:30	**Q&A**	

Young Investigator Awards 1		15:50-17:20	Grand Ballroom 104 (1F)
Chair		**Albert Yick-Hou Lim** (Tan Tock Seng Hospital, Singapore)	
15:50-15:58	YIA-1-1	**The Role of Airway Epithelia in Sarcoidosis** **Alejandro A Pezzulo** (U.S.A.)*, Miles Hagner, Brandon Bettis, Huiyu Gong, Andrew Thurman, Nabeel Hamzeh	
15:58-16:06	YIA-1-2	**Loss of Endothelial Sphingosine-1-Phosphate Receptor 1 (S1PR1) Exacerbates Injury-Induced Pulmonary Fibrosis** **Rachel S. Knipe** (U.S.A.)*, Patricia L. Brazee, Clemens K. Probst, Jason Griffith, Lida Hariri, Timothy Hla, Benjamin D. Medoff	
16:06-16:14	YIA-1-3	**Correlation between hand grip strength and peak inspiratory flow rate in patients with stable chronic obstructive pulmonary disease** **Apisara Suriyakul** (Thailand)*, Narongkorn Saiphoklang, Igor Barjaktarevic, Christopher Cooper	
16:14-16:22	YIA-1-4	**Prevalence, Characteristics, and Risk of Exacerbation in Young patients with Chronic Obstructive Pulmonary Disease** **Yong Suk Jo** (Republic of Korea)*, Kyung Joo Kim, Chin Kook Rhee, Kwang Ha Yoo, Ki-Suck Jung, Yong-Bum Park	
16:22-16:30	YIA-1-5	**A Relationship between Female Sex Hormones, Cellular Metabolism, and Asthma** **Olivia Carrol** (Australia)*, Alexandra Brown, Jemma Mayall, Henry Gomez, Richard Kim, Chantal Donovan, Evan Williams, Bronwyn Berthon, James Pinkerton, Philip Hansbro, Paul Foster, Katie Wynne, Hayley Scott, Lisa Wood, Jay Horvat	
16:30-16:38	YIA-1-6	**Distinct impacts of centrilobular vs. paraseptal emphysema on annual decline in pulmonary function in COPD** **Yusuke Shiraishi** (Japan)*, Naoya Tanabe, Kaoruko, Shimizu, Akira Oguma, Ryo Sakamoto, Tsuyoshi Oguma, Atsuyasu Sato, Masaru Suzuki, Hironi Makita, Shigeo Muro, Masaharu Nishimura, Susumu Sato, Satoshi Konno, Toyohiro Hirai	
16:38-16:46	YIA-1-7	**Genome-wide association study in patients with pulmonary Mycobacterium avium complex disease** **Ho Namkoong** (Japan)*	
16:46-16:54	YIA-1-8	**Non-cystic Fibrosis Bronchiectasis (NCFB) is a Bronchiolectatic Disease Characterized by MUC5B-dominated Mucus Hyperproduction** **Takanori Asakura** (United States of America)*, Kenichi Okuda, Gang Chen, Takafumi Kato, Yu Mikami, Rodney Gilmore, Selene Margarita Barbosa Cardenas, Michael Chua, Yohei Masugi, Peadar Noone, Carla Maria Pedrosa Ribeiro, Kenneth Olivier, Naoki Hasegawa, Scott Randell, Wanda O'Neal, Richard Boucher	
16:54-17:02	YIA-1-9	**The lung microbiota in nontuberculous mycobacterial pulmonary disease** **Bo-Guen Kim** (Republic of Korea)*, Noeul Kang, Su-Young Kim, Dae Hun Kim, Hojoong Kim, O Jung Kwon, Hee Jae Huh, Nam Yong Lee, Jhingook Kim, Byung Woo Jhun	
17:02-17:10	YIA-1-10	**Diagnostic Utility of Adenosine Deaminase in Differentiating Tuberculous and Non-Tuberculous Exudative Pleural Effusions** **Boon Hau Ng** (Malaysia)*, Hsueh Jing Low, Andrea Yu-Lin Ban, Nik Nuratiqah Nik Abeed, Mohamed Faisal Abdul Hamid	
17:10-17:18	YIA-1-11	**Risk factors associated with treatment response in patients with idiopathic nonspecific interstitial pneumonia** **Dong-Hyun Joo** (Republic of Korea)*, Sun Mi Choi	

Memorial Lecture		08:10-09:10	Auditorium (3F)
Chairs		**Carlos Robalo Cordeiro** (University of Coimbra, Portugal) **Jae Jeong Shim** (Korea University College of Medicine, Republic of Korea)	
08:10-08:40	PL02-1	**[Michiyoshi Harasawa]** **Chronic lung diseases: COPD and bronchiectasis** **Chong-Jen Yu** (National Taiwan University College of Medicine, Taiwan)	
08:40-09:10	PL02-2	**[Ann Janet Woolcock]** **Why Improve the Management of Chronic Cough in Children Through Clinical Care and Research?** **Anne Chang** (Menzies School of Health Research, Queensland University of Technology, Australia)	

Symposium 17		09:20-10:50	Auditorium (3F)
COPD - Microbiome/Infection			
Chairs		**Richard Russell** (University of Oxford, United Kingdom) **Sang-Do Lee** (University of Ulsan College of Medicine, Republic of Korea)	
09:20-09:50	S17-1	**Up-To-Date Research of Microbiome in COPD and Clinical Implication** **Don Sin** (University of British Columbia, St. Paul Hospital, Canada)	
09:50-10:20	S17-2	**Who Needs ICS in COPD** **Richard Russell** (University of Oxford, United Kingdom)	
10:20-10:50	S17-3	**BCO (Bronchiectasis COPD Overlap): Severe Phenotype or Simple Comorbidity?** **Ji Ye Jung** (Yonsei University College of Medicine, Republic of Korea)	

Symposium 18		09:20-10:50	Grand Ballroom 101 (1F)
Tuberculosis - Towards TB Elimination Post-Pandemic Era in APSR Members' Countries			
Chairs		**Jennifer Ann Wi** (Dagupan Doctors Villaflor Memorial Hospital, Philippines) **Tae Sun Shim** (University of Ulsan College of Medicine, Republic of Korea)	
09:20-09:50	S18-1	**Experience Sharing from High Burden Country: Challenges and Strategies** **Erlina Burhan** (Universitas Indonesia, Indonesia)	
09:50-10:20	S18-2	**Lessons Learned from Intermediate Burden Countries: Success Story of Each Country 1** **Seiya Kato** (The Research Institute of Tuberculosis, Japan)	
10:20-10:50	S18-3	**Lessons Learned from Intermediate Burden Countries: Success Story of Each Country 2** **Hee Jin Kim** (Korean National Tuberculosis Association, Republic of Korea)	

Symposium 19	09:20-10:50	Grand Ballroom 102 (1F)
Paediatric Lung Disease - Rare but Becoming Prevalent Pediatric Chronic Lung Disease		
Chairs	**Anne Goh Eng Neo** (KK Women's and Children's Hospital, Singapore) **Soo-Jong Hong** (University of Ulsan College of Medicine, Republic of Korea)	
09:20-09:50	**S19-1**	**What Should We Focus on Managing Children with Non-CF Bronchiectasis?** **Anne Goh Eng Neo** (KK Women's and Children's Hospital, Singapore)
09:50-10:20	**S19-2**	**Measures to Prevent Bronchopulmonay Dysplasia in Premature Neonates** **Tsu F. Yeh** (Taipei Medical University, Taiwan)
10:20-10:50	**S19-3**	**Still Ongoing Issues of Pediatric Humidifier Disinfectant-Related Lung Injury** **Soo-Jong Hong** (University of Ulsan College of Medicine, Republic of Korea)

Symposium 20	09:20-10:40	Grand Ballroom 103 (1F)
Lung Cancer - Pro/Con: Sequential Treatment for Advanced EGFR M(+) NSCLC		
Chair	**Kwun Fong** (The University of Queensland, Australia)	
09:20-09:25	**Introduction & Voting**	
09:25-09:45	**S20-1**	**Pro: Sequential Treatment for Advanced EGFR M(+) NSCLC** **Jeong Eun Lee** (Chungnam National University School of Medicine, Republic of Korea)
09:45-10:05	**S20-2**	**Con: Sequential Treatment for Advanced EGFR M(+) NSCLC** **Diana Yuwung Yeh** (School of Medicine, Fu Jen Catholic University, Taiwan)
10:05-10:20	**Comment**	
10:20-10:35	**Q&A**	
10:35-10:40	**Voting & Closing**	

Symposium 21	11:10-12:40	Auditorium (3F)
Asthma - Meet the Professor		
Chair	**Yong Chul Lee** (Chonbuk National University Medical School, Republic of Korea)	
11:10-12:40	**S21-1**	**Management of T2-Low Asthma** **Parameswaran Nair** (McMaster University, Canada)

Symposium 22	11:10-12:40	Grand Ballroom 101 (1F
Clinical Respiratory Medicine - Lung Aging and Chronic Lung Diseases		
Chairs	**David A. Schwartz** (University of Colorado School of Medicine, U.S.A.) **Man Pyo Chung** (Sungkyunkwan University School of Medicine, Republic of Korea)	
11:10-11:40	**S22-1**	**Physiologic and Structural Consideration in the Aging Lung** **Won-Il Choi** (Myongji Hospital, Republic of Korea)
11:40-12:10	**S22-2**	**An Airway Centric View of Idiopathic Pulmonary Fibrosis** **David A. Schwartz** (University of Colorado School of Medicine, U.S.A.)
12:10-12:40	**S22-3**	**Similarity Dissimilarity between Aging and ILD/IPF (or Chronic Lung Diseases)** **Yasuhiro Kondoh** (Tosei General Hospital, Japan)

Symposium 23	11:10-12:40	Grand Ballroom 102 (1F)
Respiratory Structure and Function - Physiologic Phenotype of Respiratory Disease		
Chairs	**Martijn A. Spruit** (Maastricht University Medical Center, Kingdom of the Netherlands) **Seong Yong Lim** (Sungkyunkwan University School of Medicine, Republic of Korea)	
11:10-11:40	**S23-1**	**The Role of the Physiome: Physiologic Phenotyping and Treatable Traits in Pulmonary Disease** **Martijn A. Spruit** (Maastricht University Medical Center, Kingdom of the Netherlands)
11:40-12:10	**S23-2**	**Challenging Spirometry: Newer Lung Function Test Other than FEV1** **David G. Chapman** (University of Technology Sydney, Australia)
12:10-12:40	**S23-3**	**States of Art: Recent Update of Pulmonary Rehabilitation** **Seung Won Ra** (Ulsan University Hospital, Republic of Korea)

JRS Symposium	11:10-12:40	ASEM Ballroom 202 + 203 (2F)
11:10-11:40	**JRS-1**	**Challenge to overcome drug resistance in non-small cell lung cancer (Video Recording)** **Kazuhisa Takahashi** (Juntendo University, Japan)
11:40-12:10	**JRS-2**	**Role of airway mucus hypersecretion in the pathogenesis of COPD: implications for therapy (Video Recording)** **Takeshi Kaneko** (Yokohama City University, Japan)

Symposium 24 — 14:00-15:20 — Auditorium (3F)

COPD – Pro/Con: Application of Bioinformatic Artificial Intelligence to Current Clinical Practice in the Management of COPD

Chair	**Alejandro A Pezzulo** (University of Iowa, U.S.A.)	
14:00-14:05	**Introduction & Voting**	
14:05-14:25	**S24-1**	**Pro: Application of Bioinformatic Artificial Intelligence to Current Clinical Practice in the Management of COPD**
		Chin Kook Rhee (The Catholic University of Korea College of Medicine, Republic of Korea)
14:25-14:45	**S24-2**	**Con: Application of Bioinformatic Artificial Intelligence to Current Clinical Practice in the Management of COPD**
		Konstantinos Kostikas (University of Ioannina, Greece)
14:45-15:00	**Comment**	
15:00-15:15	**Q&A**	
15:15-15:20	**Voting & Closing**	

Symposium 25 — 14:00-15:30 — Grand Ballroom 101 (1F)

Respiratory Infections (non-tuberculous) - Updated Clinical Approach in Respiratory Infection

Chairs	**Chieh-Liang Wu** (Taichung Veterans General Hospital, Taiwan) **Jae Hwa Cho** (Yonsei University College of Medicine, Republic of Korea)	
14:00-14:30	**S25-1**	**Treatment of miscellaneous pulmonary infections: actinomycosis and cryptococcosis**
		Hyun Lee (Hanyang University College of Medicine, Republic of Korea)
14:30-15:00	**S25-2**	**Recent Advances in the Aspiration Pneumonia**
		Chieh-Liang Wu (Taichung Veterans General Hospital, Taiwan)
15:00-15:30	**S25-3**	**Advances in the Management of Fungal Pneumonia in Critically Ill Patients**
		Jin-won Huh (University of Ulsan College of Medicine, Republic of Korea)

Symposium 26 — 14:00-15:30 — Grand Ballroom 102 (1F)

Critical Care Medicine - Meet the Professor

Chair	**Sang Bum Hong** (University of Ulsan College of Medicine, Republic of Korea)	
14:00-14:40	**S26-1**	**ARDS, Beyond & Next**
		Carolyn S. Calfee (University of California, San Francisco, U.S.A.)
14:40-15:30	**Discussion**	

Symposium 27 — 15:50-17:20 — Auditorium (3F)

Interstitial Lung Disease - Interstitial Lung Abnormalities: State of the Art

Chairs	**Grace H. Kim** (UCLA, U.S.A.) **Jin Woo Song** (University of Ulsan College of Medicine, Republic of Korea)	
15:50-16:20	**S27-1**	**ILA: Natural Course and Clinical Implication**
		Takeshi Johkoh (Kansai Rosai Hospital, Japan)
16:20-16:50	**S27-2**	**Evaluation of ILA by Automatic Quantification System**
		Grace H. Kim (UCLA, U.S.A.)
16:50-17:20	**S27-3**	**ILA in Asian Population**
		Gong Yong Jin (Jeonbuk National University, Republic of Korea)

Symposium 28 — 15:50-17:20 — Grand Ballroom 101 (1F)

Environmental & Occupational Health and Epidemiology - The Past, Present, and Future of Occupational Health Surveillance

Chairs	**Martie Van Tongeren** (The University of Manchester, United Kingdom) **Woo Jin Kim** (Kangwon National University School of Medicine, Republic of Korea)	
15:50-16:20	**S28-1**	**UK Occupational and Environmental Surveillance Program**
		Martie Van Tongeren (The University of Manchester, United Kingdom)
16:20-16:50	**S28-2**	**A Surveillance of Nanoparticle Exposured Workers and Their Respiratory Function, Japan Experience**
		Akira Ogami (University of Occupational and Environmental Health, Japan)
16:50-17:20	**S28-3**	**Hospital Based Nation-Wide Survillance of Asbestos Related Diseases in Korea**
		Jun-Pyo Myong (The Catholic University of Korea College of Medicine, Republic of Korea)

Symposium 29 — 15:50-17:20 — Grand Ballroom 102 (1F)

Clinical Allergy & Immunology - Advances in Clinical Allergy and Immunology

Chairs	**Koichiro Asano** (Tokai University School of Medicine, Japan) **Chang-Keung Kim** (Inje University College of Medicine, Republic of Korea)	
15:50-16:20	**S29-1**	**The Effect of Tezepelumab in Asthma**
		Asger Sverrild (University Hospital Bispebjerg, Denmark)
16:20-16:50	**S29-2**	**Diagnosis and Treatment of ABPA**
		Koichiro Asano (Tokai University School of Medicine, Japan)
16:50-17:20	**S29-3**	**Treatment of Biologics in Comorbidities of Asthma**
		Ji-yong Moon (Hanyang University College of Medicine, Republic of Korea)

Luncheon Symposium 7

12:50-13:50 | Grand Ballroom 101 (1F)

Sponsored by KOLON PHARMA

Asthma

Chair	**Hyoungkyu Yoon** (Yeouido ST. Mary's Hospital, The Catholic University of Korea College of Medicine, Republic of Korea)	
12:50-13:50	**LS07-1**	**SAD in Asthma** **Omar S Usmani** (National Heart and Lung Institute (NHLI), Imperial College London, United Kingdom)

Luncheon Symposium 8

12:50-13:50 | Grand Ballroom 102 (1F)

Sponsored by Boehringer Ingelheim Korea

Progressive Fibrosing Interstitial Lung Diseases (PF-ILD)-Management Strategies in Clinical Practice

Chair	**Jin Woo Song** (University of Ulsan College of Medicine, Republic of Korea)	
12:50-12:55	**Welcome & Introduction**	
12:55-13:15	**LS08-1**	**Diagnosis for Progression & Monitoring in PF-ILD** **Sun Mi Choi** (Seoul National University College of Medicine, Republic of Korea)
13:15-13:40	**LS08-2**	**Current Treatment Approaches in PFILD and Treatment Initiation Criteria with RWE Patient Cases** **Toby Maher** (University of Southern California, U.S.A.)
13:25-13:45	**Discussion**	· **Sun Mi Choi** (Seoul National University College of Medicine, Republic of Korea) · **Toby Maher** (University of Southern California, U.S.A.)
13:45-13:50	**Summary & Conclusion**	

Luncheon Symposium 9

12:50-13:50 | Grand Ballroom 103 (1F)

Sponsored by Boryung Co.

Airway Disease - In-depth Review of Mucus

Chair	**Seong Yong Lim** (Sungkyunkwan University School of Medicine, Republic of Korea)	
12:50-13:50	**LS09-1**	**Recent Update Chronic Bronchitis** **Chin Kook Rhee** (The Catholic University of Korea College of Medicine, Republic of Korea)

Luncheon Symposium 10

12:50-13:50 | Grand Ballroom 104 (1F)

Sponsored by AstraZeneca Korea

Severe Asthma

Chair	**Joo Hun Park** (Ajou University School of Medicine, Republic of Korea)	
12:50-13:50	**LS10-1**	**'First Do No Harm': Using Biomarkers and Biologics to Minimize Systemic Steroid Exposure in Asthma** **David Jackson** (Guy's and St Thomas' Hospital, King's College London, United Kingdom)

Luncheon Symposium 11

12:50-13:50 | Grand Ballroom 105 (1F)

Sponsored by MSD Korea

Cancer

Chair	**Sung Yong Lee** (Korea University College of Medicine, Republic of Korea)	
12:50-13:50	**LS11-1**	**Reimagine More TOMORROWs Together with Pembrolizumab in the 1st-line mNSCLC Treatment** **Seong-Hoon Yoon** (Pusan National University Yangsan Hospital, Republic of Korea)

Luncheon Symposium 12

12:50-13:50 | ASEM Ballroom 202 + 203 (2F)

Sponsored by Novartis

Asthma

Chair	**Yeon-Mok Oh** (University of Ulsan College of Medicine, Republic of Korea)	
12:50-13:40	**LS12-1**	**Simplified Triple Therapy for Asthma** **Kenneth R. Chapman** (Toronto General Hospital Research Institute, Canada)
13:40-13:50	**Q&A**	

Evening Symposium 7

17:30-18:30 | Grand Ballroom 101 (1F)

Sponsored by bioMerieux Asia Pacific Pte Ltd

Chair	**Young Sam Kim** (Yonsei University College of Medicine, Republic of Korea)	
17:30-18:30	**ES07-1**	**How Rapid Multiplex PCR Technology Revolutionizes Antimicrobial Stewardship for Pneumonia Management and Values in Post-pandemic Era** **Vanya Gant** (University College London Hospital, United Kingdom)

Evening Symposium 8

17:30-18:30 | Grand Ballroom 102 (1F)

Sponsored by Abbott Korea

Asthma

Chair	**Do-Jin Kim** (Soon Chun Hyang University College of Medicine, Republic of Korea)	
17:30-18:30	**ES08-1**	**The Role of Sublingual Allergen Specific Immunotherapy in the Treatment of House Dust Mite Driven Asthma** **Eike Wüstenberg** (ALK Corporate Headquarter, Vice President Medical Affairs, Denmark)

Evening Symposium 9

17:30-18:30 | Grand Ballroom 103 (1F)

Sponsored by GSK

Asthma

Chair	**Yong Bum Park** (Hallym University College of Medicine, Republic of Korea)	
17:30-17:55	**ES09-1**	**A Benefit/Risk Analysis of Regular Maintenance vs. Infrequent or As-needed Inhaled Corticosteroid Use in Asthma** **Nobert Berend** (University of Sydney, Australia)
17:55-18:20	**ES09-2**	**Role of Iama and benefit of single inhaler triple therapy in Asthma** **Gregory King** (Royal North Shore Hospital, Australia)
18:20-18:30	**Q&A**	

Evening Symposium 10

17:30-18:30 | Grand Ballroom 104 (1F)

Sponsored by Ildong Pharmaceutical

IPF

Chair	**Moo Suk Park** (Yonsei University College of Medicine, Republic of Korea)	
17:30-18:05	**ES10-1**	**Pirfenidone in Progressive Fibrosing ILD** **Takafumi Suda** (Hamamatsu University School of Medicine, Japan)
18:05-18:30	**ES10-2**	**Efficacy of Lowe Dose Pirfenidone for the Treatment of IPF** **Yong Hyun Kim** (Bucheon St. Mary's Hospital, The Catholic University of Korea College of Medicine, Republic of Korea)

Evening Symposium 11

17:30-18:30 | Grand Ballroom 105 (1F)

Sponsored by sanofi

Asthma

Chair	**Kwang Ha Yoo** (Konkuk University School of Medicine, Republic of Korea)	
17:30-18:30	**ES11-1**	**Biological Treatment for Type 2 Severe Asthma: The Role and Contribution of IL-4/IL-13** **Nicola Hananiah** (Baylor College of Medicine, U.S.A.)

Evening Symposium 12

17:30-18:30 | ASEM Ballroom 202 + 203 (2F)

Sponsored by YUHAN

Cancer

Chair	**Kye Young Lee** (Konkuk University School of Medicine, Republic of Korea)	
17:30-18:30	**ES12-1**	**Oncogene Driven NSCLC: Targeted Therapies, Lessons Learnt & Future Directions** **Sai-Hong Ignatius** (University of California, U.S.A.)

Young Investigator Awards 2		15:50-17:20	Grand Ballroom 104 (1F)
Chair		**Kwang Ha Yoo** (Konkuk University School of Medicine, Republic of Korea)	
15:50-15:58	YIA-2-1	**Determination of Ability of Individual Inflammatory Markers in Predicting Critical COVID and Mortality: a Retrospective Cohort Study**	
		Catherine Jordan (Philippines)*, Ma. Janeth Samson	
15:58-16:06	YIA-2-2	**Comparison of electromagnetic navigation bronchoscopy and transthoracic needle biopsy for diagnosing bronchus sign positive pulmonary lesions**	
		Yeon Wook Kim (Republic of Korea)*, Hyung-Jun Kim, Sung Hyun Yoon, Myung Jin Song, Byoung Soo Kwon, Sung Yoon Lim, Yeon Joo Lee, Jong Sun Park, Young-Jae Cho, Jae Ho Lee, Choon-Taek Lee	
16:06-16:14	YIA-2-3	**Analysis of brain functional connectivity in COPD patients with functional brain MRI**	
		Yoomi Yeo (Republic of Korea)*, Ji Tak Rhu, Hanjoon Jo, Sung-Ho Jang, Joonho Choi, Dong Woo Park, Tae-Hyung Kim	
16:14-16:22	YIA-2-5	**Children respiratory health during Covid-19 lockdown and after 6-month re-exposure to poor air quality.**	
		Hong Le (Australia)*, An Pham, Vinh Nguyen, Robert Ware, Dung Phung, Phong Thai, Sarath Ranganathan, Dang Tran, Hien To, Peter Sly	
16:22-16:30	YIA-2-6	**Clinical Significance of Normalized FEV1/FVC in the Patients Diagnosed with Chronic Obstructive Pulmonary Disease (COPD).**	
		Yun Seok Kim (Republic of Korea)*, Kwang Ha Yoo, Chin Kook Rhee, Ki-Suck Jung, Yong Bum Park, Joon Young Choi	
16:30-16:38	YIA-2-7	**Late diagnosis of Congenital Pulmonary Airway Malformation (CPAM) in a child with recurrent respiratory symptoms**	
		Sokchinda Kong (Cambodia)*, Khemuoy Um, Michael Wall	
16:38-16:46	YIA-2-8	**Tuberculous Lymphadenitis in Children: Experience From a Referral Tertiary Hospital in a High-Burden Country**	
		Muhammad Akbar Tirtosudiro (Indonesia)*, Usman, Hermin Aminah, Cesilia Citra, Nataprawira, Heda Melinda	
16:46-16:54	YIA-2-9	**The stability of blood eosinophil count and clinical outcomes in Thai chronic obstructive pulmonary disease patients: A prospective study**	
		Punchalee Kaenmuang (Thailand)*, Siwasak Juthong, Sirikorn Densrisereekul	
16:54-17:02	YIA-2-10	**Low compliance factors of NSCLC patients who refuse chemotherapy at dr. zainoel abidin hospital banda aceh**	
		Juvenita Sartika Dewi (Indonesia)*, Ferry Dwi Kurniawan, Irmaini Irmaini, Novita Andayani	
17:02-17:10	YIA-2-11	**Remote telemonitoring among patients on home non-invasive ventilation (NIV): the Sarawak experience**	
		Mei Ching Yong (Malaysia)*, Sze Shyang Kho, Swee Kim Chan, Siew Teck Tie	

Keynote & Invited Lecture		08:10-09:10	Auditorium (3F)
Chairs		**Young Whan Kim** (Konkuk University School of Medicine, Republic of Korea) **Jae Ho Lee** (Seoul National University College of Medicine, Republic of Korea)	
08:10-08:40	PL03-1	**[Keynote Lecture]** **Shorter Treatment for Tuberculosis: Where Do We Stand?**	
		Jae-Joon Yim (Seoul National University College of Medicine, Republic of Korea)	
08:40-09:10	PL03-2	**[Invited Lecture]** **Role of Proteinases and the Extracellular Matrix in ARDS Pathobiology**	
		Gregory P. Downey (University of Colorado School of Medicine, U.S.A.)	

Symposium 30		09:20-10:50	Grand Ballroom 101 (1F)
Critical Care Medicine - Reorganizing ICU after COVID-19 Pandemic			
Chairs		**Jason Phua** (National University Hospital, Singapore) **Sang-Min Lee** (Seoul National University College of Medicine, Republic of Korea)	
09:20-09:50	S30-1	**Therapeutics of Critical COVID-19 Patients**	
		Carolyn S. Calfee (University of California, San Francisco, U.S.A.)	
09:50-10:20	S30-2	**Management of Acute Respiratory Failure in COVID-19**	
		Jason Phua (National University Hospital, Singapore)	
10:20-10:50	S30-3	**Reorganizing ICU after COVID-19 Pandemic**	
		Young-Jae Cho (Seoul National University College of Medicine, Republic of Korea)	

Symposium 31		09:20-10:50	Grand Ballroom 102 (1F)
Lung Cancer - Palliative Care in Patients with Lung Cancer			
Chairs		**Sita Andarini** (University of Indonesia, Persahabatan Hospital, Indonesia) **Chang-Min Choi** (University of Ulsan College of Medicine, Republic of Korea)	
09:20-09:50	S31-1	**Evolution of Palliative Care and Models of Care Delivery**	
		David Hui (MD Anderson Cancer Center, U.S.A.)	
09:50-10:20	S31-2	**Benefits and Barriers of Early Integrated Palliative Care in Lung Cancer Patients**	
		Hye Ryoun Kim (Korea Institute of Radiological and Medical Sciences, Republic of Korea)	
10:20-10:50	S31-3	**Symptom Relief Management in End-of Life Care**	
		So Young Park (Hallym University College of Medicine, Republic of Korea)	

Symposium 32		09:20-10:50	Grand Ballroom 103 (1F)
Interstitial Lung Disease - Meet the Professor			
Chair	**Moo Suk PARK** (Yonsei University College of Medicine, Republic of Korea)		
09:20-10:50	**S32-1**	**The Role of Genetics in Idiopathic Pulmonary Fibrosis** **David A. Schwartz** (University of Colorado School of Medicine, U.S.A.)	

Symposium 33		11:10-12:40	Grand Ballroom 101 (1F)
Asthma - Biomarker and Genetic Marker in Severe Asthma			
Chairs	**Olivia Carroll** (The University of Newcastle and the Priority Research Centre for Healthy Lungs, Hunter Medical Research Institute - Newcastle, Australia) **Yong Bum Park** (Hallym University College of Medicine, Republic of Korea)		
11:10-11:40	**S33-1**	**Biomarker for Severe Asthma** **Nicola Hanania** (Baylor College of Medicine, U.S.A.)	
11:40-12:10	**S33-2**	**Microbiome in Severe Asthma** **Jung-Kyu Lee** (Seoul National University, Republic of Korea)	
12:10-12:40	**S33-3**	**Eosinophil-Mucus Complex Interplay in Severe Asthma** **Parameswaran Nair** (McMaster University, Canada)	

Symposium 34		11:10-12:40	Grand Ballroom 102 (1F)
Clinical Respiratory Medicine - From Cough to Exacerbation			
Chairs	**Anne E. Vertigan** (The University of Newcastle, Australia) **Jin Woo Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)		
11:10-11:40	**S34-1**	**Heterogenous Aspect of Chronic Cough: Differing Profile** **Hyeon-Kyoung Koo** (Inje University College of Medicine, Republic of Korea)	
11:40-12:10	**S34-2**	**What to do and where to go with exacerbations of COPD?** **Mona Bafadhel** (King's College London, United Kingdom)	
12:10-12:40	**S34-3**	**The State of the Art for Refractory Cough: Multidisciplinary Approach** **Anne E. Vertigan** (The University of Newcastle, Australia)	

Symposium 35		11:10-12:40	Grand Ballroom 103 (1F)
COPD - Early COPD			
Chairs	**Don Sin** (University of British Columbia, St. Paul Hospital, Canada) **Seung Won Ra** (University of Ulsan College of Medicine, Republic of Korea)		
11:10-11:40	**S35-1**	**Importance of Early COPD in Young Adults for Development of Clinical COPD** **Don Sin** (University of British Columbia, St. Paul Hospital, Canada)	
11:40-12:10	**S35-2**	**Defining of Early COPD in Korea** **Youlim Kim** (Konkuk University School of Medicine, Republic of Korea)	
12:10-12:40	**S35-3**	**Early Intervention of COPD with Mild Airflow Limitation** **Diahn-Warng Perng** (Taipei Veterans General Hospital, Taiwan)	

APSR-GOLD Joint Session		09:20-11:00	Auditorium (3F)
Updates of the GOLD Strategy and Its Implementation into Asia			
Chair	**David Hui** (The Chinese University of Hong Kong, Hong Kong)		
09:20-09:50	**GOLD Update Presentation** **Don Sin** (University of British Columbia, St. Paul Hospital, Canada)		
09:50-10:15	**Implementation of the GOLD Strategy into a Local COPD Guideline** **- Comparison of the GOLD Strategy vs. the Korean COPD Guideline.** **Yeon-Mok Oh** (University of Ulsan College of Medicine, Republic of Korea)		
10:15-10:40	**Management of COPD in Asia** **Chin Kook Rhee** (The Catholic University of Korea College of Medicine, Republic of Korea)		
10:40-11:00	**Panel Discussion** **- David Hui** (The Chinese University of Hong Kong, Hong Kong) **- Yeon-Mok Oh** (University of Ulsan College of Medicine, Republic of Korea) **- Chin Kook Rhee** (The Catholic University of Korea College of Medicine, Republic of Korea) **- Don Sin** (University of British Columbia, St. Paul Hospital, Canada) **- Diahn-Warng Perng** (Taipei Veterans General Hospital, Taiwan)		

APSR 2022

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Asian Pacific Society of Respirology

ORAL PRESENTATION & POSTER EXHIBITION

18 November 80
19 November 123
20 November 165

ORAL PRESENTATION

18 November

Oral 1 — 09:20-10:50 — Grand Ballroom 104 (1F)

Asthma

Chair — **Yu-Il Kim** (Chonnam National University Medical School, Republic of Korea)

09:20-09:30	AO01-1	**Severe asthma is associated with the adverse COVID-19 outcome - A Big Data Study** **Jong Seung Kim** (Republic of Korea)*, Jae Seok Jeong, Yeon Seok You, Jong-Hwan Lee, Sang Woo Yeom, Yong Chul Lee
09:30-09:40	AO01-2	**Demographic and Clinical Characteristics of Patients with Severe Asthma in the Asian Pacific Region: data from the International Severe Asthma Registry (ISAR)** **David Price** (United Kingdom)*, Chin Kook Rhee, Trung N. Tran, Rohit Katial, Neil Martin, Matthew Peters, Eve Denton, John W. Upham, Philip Bardin, Belinda Cochrane, Peter G Middleton, Paul Reynolds, Christine Jenkins, Diahn-Warng Perng, Hao-Chien Wang, Chau-Chyun Sheu, Ming-Ju Tsai, Erick Wan-Chun Huang, Ying-Chun Chien, Jeng-Yuan Hsu, Pin-Kuei Fu, Ching-Hsiung Lin, Sheng-Hao Lin, Sheng-Yeh Shen, Shih-Feng Liu, Kang-Yun Lee, Kuo-Chin Chiu, Horng-Chyuan Lin, Ming-Shian Lin, Chu-Kuang Chou, Sundeep Salvi, You Sook Cho, Kwang Ha Yoo, Takashi Iwanaga, Yuji Tohda, Hajime Fujimoto, Hiroshi Tanaka, Kazutaka Nogami, Kiyoshi Sekiya, Mayumi Matsunaga, Hozawa Soichiro,Takao Fujisawa, Tatsuya Nagano, Tetsu Kobayashi, Tsuyoshi Oguma, Yoshihiro Nishimura, Lakmini Bulathsinhala, Indu Joshi, Neva Eleangovan, Derek Skinner, Victoria Carter, Chris Price, Ruth Murray
09:40-09:50	AO01-3	**Ending the reign of short-acting β2-agonists in Australia?** **David Price** (United Kingdom)*, Ruth Murray, Christine Jenkins, Kerry Hancock, Rebecca Vella, Florian Heraud, Porsche Le Cheng, Sinthia Bosnic-Anticevich, Fabio Botini, Victoria Carter, Angelina Catanzariti, Joe Doan, Ata Kichkin,Thao Le, Chantal Le Lievre, Chi Ming Lau, Dominique Novic, John Pakos, Kanchanamala Ranasinghe, Alex Roussos, Josephine Samuel-King, Anita Sharma, Bruce Willet, Eric Bateman
09:50-10:00	AO01-4	**Pharmacological characterization of T cell-dependent steroid-resistant asthma model using several kinase inhibitors** **Akio Mori** (Japan)*, Satoshi Kouyama, Akemi Ohtomo-Abe, Yuichiro Kawasaki, Maki Iwata, Yuto Nakamura, Yuto Hamada, Yosuke Kamide, Kiyoshi Sekiya, Yuma Fukutomi, Takayuki Ohtomo, Osamu Kaminuma
10:00-10:10	AO01-6	**Dupilumab sustains improvements in clinical efficacy and reductions in OCS use in patients with severe, OCS-dependent asthma: LIBERTY ASTHMA TRAVERSE study** **Hye Yun Park** (Republic of Korea)*, Mark Gurnell, Christian Domingo, Klaus F. Rabe, Andrew Menzies-Gow, David Price, Guy Brusselle, Michael E. Wechsler, Changming Xia, Nami Pandit-Abid, Rebecca Gall, Juby A. Jacob-Nara, Paul J. Rowe, Yamo Deniz, Shahid Siddiqui
10:10-10:20	AO01-7	**The association of short-acting β2-agonist overuse with asthma control and severe exacerbations: an Australian perspective** **David Price** (United Kingdom)*, Ruth Murray, Christine Jenkins, Kerry Hancock, Rebecca Vella, Florian Heraud, Porsche Le Cheng, Sinthia Bosnic-Anticevich, Fabio Botini, Victoria Carter, Angelina Catanzariti, Joe Doan, Ata Kichkin, Thao Le, Chantal Le Lievre, Chi Ming Lau, Dominique Novic, John Pakos, Kanchanamala Ranasinghe, Alex Roussos, Josephine Samuel-King, Anita Sharma, Bruce Willet, Eric Bateman
10:30-10:40	AO01-8	**Correlation of pulmonary function measured by Forced Oscillation Technique, Spirometry and asthma control questionnaire** **Nagesh Dhadge** (India)*, Pinaki Sengupta, Kameshwar Rao, Aneesha Mohan, Narendra Singh Bhati, Reenkal Ahire

Oral 2 — 09:20-10:30 — Grand Ballroom 105 (1F)

Cell and Molecular Biology

Chair — **Sei Won Lee** (University of Ulsan College of Medicine, Republic of Korea)

09:20-09:30	AO02-1	**CVA11 infection exerts potent immunogenic oncolytic activity in human malignant pleural mesothelioma via ICAM-1 receptor** **Koji Okamura** (Japan)*, Hiroyuki Inoue, Kentaro Tanaka, Yuki Ikematsu, Rie Furukawa, Keiichi Ota, Yasuto Yoneshima, Eiji Iwama, Isamu Okamoto
09:30-9:40	AO02-2	**Study of genetic variability of production strains of M. bovis BCG** **Dmytro Butov** (Ukraine)*, Oleksii Solodiankin Natalia Rudova, Alex Rosenthal, Andrei Gabrielian, Michael Harris, Madeline Galac, Brendan Jeffrey, Andriy Zavhorodnii, Anatoly Gerilovych, Tetiana Butova, Olga Bilogortseva, Valery Minukhin, Nadiya Sklyar, Olena Peretyatko, Anton Tkachenko
09:40-09:50	AO02-3	**Glyoxalase-1 is essential for the definitive endoderm and alveolar development of human pluripotent stem cells** **Suji Jeong** (Republic of Korea)*, Hyebin Koh, Jong-Hee Lee, Seok-Ho Hong
09:50-10:00	AO02-4	**GHS-R1a deficiency mitigates lipopolysaccharide-induced lung injury in mice via the downregulation of macrophage activity** **Hironobu Tsubouchi** (Japan)*, Ryota Tanida, Shigehisa Yanagi, Takafumi Shigekusa, Taiga Miyazaki, Masamitsu Nakazato
10:00-10:10	AO02-5	**Therapeutic blockade of SIRT1 in lipopolysaccharide-induced acute lung injury in mice** **Hyejoo Bae** (Republic of Korea)*, Wankyu Kim, Hae Jin Park, Kyung Hwa Park, So Ri Kim, Yeong Hun Choe, Jae Seok Jeong, Yong Chul Lee
10:10-10:20	AO02-6	**Curcumin-like diarylpentanoid analogues inhibit influenza A virus (H1N1) replication and pro-inflammatory cytokines production in A549 lung epithelial cells** **Kong Yen Liew** (Malaysia)*, Hui-Yee Chee, Faridah Abas, Sze Wei Leong, Hanis Hazeera Harith, Daud Ahmad Israf, Chau Ling Tham

Oral 3 | 09:20-10:50 | ASEM Ballroom 202 + 203 (2F)

Interstitial Lung Disease

Chair — **Yong Hyun Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)

09:20-09:30	AO03-1	**Short leukocyte telomere lengths correlate with poorer survival and absolute FVC decline from baseline independent of ILD diagnosis** **Michelle Li Wei Kam** (Singapore)*, Siao Ting Chong, Ee Ling Chew, Sock Hoai Chan, Nur Diana Bte Ishak, Su Ying Low, Joanne Yuen Yie Ngeow
09:30-09:40	AO03-2	**Role of ornithine aminotransferase in idiopathic pulmonary fibrosis: lung function decline and fibrogenesis** **Sung Woo Park** (Republic of Korea)*, Jong-Uk Lee, Jisu Hong, Hyesun Shin, Ae-Rin Baek, An Soo Jang, Do Jin Kim
09:40-09:50	AO03-3	**Direct hemoperfusion with polymyxin B-immobilized fibre column for acute exacerbation of idiopathic pulmonary fibrosis: A nationwide observational study** **Nobuyasu Awano** (Japan)*, Taisuke Jo, Takehiro Izumo, Minoru Inomata, Naoyuki Kuse, Keita Sakamoto, Yutaka Muto, Kazushi Fujimoto, Yoshihiro Furukawa, Kojiro Morita, Hiroki Matsui, Kiyohide Fushimi, Takahide Nagase, Hideo Yasunaga
09:50-10:00	AO03-4	**Impact of initial dose of corticosteroid on clinical outcomes in acute exacerbation of idiopathic pulmonary fibrosis** **Kwonhyung Hyung** (Republic of Korea)*, Jimyung Park, Sun Mi Choi
10:00-10:10	AO03-5	**Monocyte Counts and the Clinical Outcomes in the Idiopathic Nonspecific Interstitial Pneumonia** **Tae Hun Kim** (Republic of Korea)*, Hyung-Jun Kim, Myung Jin Song, Byoung Soo Kwon, Yeon Wook Kim, Sung Yoon Lim, Yeon Joo Lee, Young-Jae Cho, Jae Ho Lee, Choon-Taek Lee, Jong Sun Park
10:10-10:20	AO03-6	**Therapeutic potential of an indole derivative in fatal fibrosing interstitial lung diseases** **Yeogha Yoon** (Republic of Korea)*, Wankyu Kim, Hae Jin Park, Kyung Hwa Park, So Ri Kim, Yeong Hun Choe, Jae Seok Jeong, Yong Chul Lee
10:20-10:30	AO03-7	**Effect of aspirin on mortality in patients with idiopathic pulmonary fibrosis; An analysis using the Korean National Health Insurance Service database from 2010 to 2020.** **Eun Young Kim** (Republic of Korea)*, A La Woo, Song Yee Kim, Chang Hoon Han, Moo Suk Park
10:30-10:40	AO03-8	**Immunogenicity and safety of ChAdOx1 nCoV-19 vaccine in interstitial lung disease patients with immunosuppressive therapy** **Tinn Hongboontry** (Thailand)*, Sasipak Nithiworanan. Amornpun Wongkarnjana, Picha Pattrapruettada, Suppareerk Disayabutr

Oral 4 | 11:10-12:40 | Grand Ballroom 104 (1F)

Tuberculosis - Drug Sensitive Tuberculosis

Chair — **Young Ae Kang** (Yonsei University College of Medicine, Republic of Korea)

11:10-11:20	AO04-1	**Comparison of active tuberculosis case finding strategies for immigrants in South Korea: epidemiology and cost-effectiveness analysis** **Yedham Kang** (Republic of Korea)*, Sangwook Park, Chaegyu Sung, Hangseok Choi, Yeo Wool Lee, Hee-Jin Kim, Hae-Young Kim, In-Hwan Oh, Seung Heon Lee
11:20-11:30	AO04-2	**People with disabilities are at risk of tuberculosis: a nationwide serial cross-sectional study** **Jinsoo Min** (Republic of Korea)*, So Young Kim, Jong Eun Park, Yeon Yong Kim, Jong Hyock Park
11:30-11:40	AO04-3	**Diagnostic performance of XPERT-MTB/RIF and XPERT-MTB/RIF Ultra on thoracoscopic pleural biopsy specimens for diagnosing pleural tuberculosis - A single center experience of 534 patients.** **Chetan Rao Vaddepally** (India)*, Virender Pratibh Prasad, Abdul Naseer Mohammed, Venkata Nagarjuna Maturu
11:40-11:50	AO04-4	**Clinical course and risk factors associated with paradoxical responses in patients with mediastinal lymph node tuberculosis** **Areum Han** (Republic of Korea)*, Junsu Choe, Sun Hye Shin, Hongseok Yoo, Byung Woo Jhun, Kyungjong Lee, Kyeongman Jeon, Sang-Won Um, Hojoong Kim, Byeong-Ho Jeong
11:50-12:00	AO04-5	**Comparison of different types of fixed-dose combination regimen for treatment of tuberculosis in elderly patients in Taiwan** **Ko-Yun Chang** (Taiwan)*, Shin-Shin Liu, Yu-Che Lee, Hui-Chen Chen, Ming-Feng Wu, Wei-Chang Huang
12:00-12:10	AO04-6	**The treatment outcome of pulmonary tuberculosis with or without pyrazinamide for patients under or over the age of 80 in Osaka city, Japan.** **Myung Mi Cho** (Japan)*, Jun Komukai, Tetsuo Morimoto
12:10-12:20	AO04-7	**Real-world experience of rifampicin sparing treatment for drug-susceptible pulmonary tuberculosis** **Hyung-Jun Kim** (Republic of Korea)*, Myung Jin Song, Byoung Soo Kwon, Yeon Wook Kim, Sung Yoon Lim, Yeon-Joo Lee, Jong Sun Park, Young-Jae Cho, Choon-Taek Lee, Jae Ho Lee

Oral 5 | 11:10-12:30 | Grand Ballroom 105 (1F)

Lung Cancer - Basic research and Screening

Chair: **Young Kyoon Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)

11:10-11:20	AO05-1	**Study on the mechanism of msc-mirna-198-exos regulating mapk1 in malignant pleural effusion associated with non-small cell lung cancer** **Yanan Wang** (China (Mainland))*, Yan Gu
11:20-11:30	AO05-2	**KCNK3 inhibits proliferation and glucose metabolism of lung adenocarcinoma via activation of AMPK-TXNIP pathway** **Lanlan Lin** (China (Mainland))*, Xiaohui Chen, Guofu Lin, Yuan Xu, Yiming Zeng
11:0-11:40	AO05-3	**Integrated profiling of endoplasmic reticulum stress-related DERL3 in prognostic and immune features of lung adenocarcinoma** **Lanlan Lin** (China (Mainland))*, Guofu Lin, Xiaohui Chen, Yuan Xu, Yiming Zeng
11:40-11:50	AO05-4	**Pilot study: comparative analysis of immune related gene expression in lung adenocarcinoma tissues between never smokers, non-emphysematous smokers and emphysematous lungs** **Jeong Uk Lim** (Republic of Korea)*, Tai Joon An, Young Jo Sa, Chan Kwon Park, Hyoung Kyu Yoon, Tae-Jung Kim
11:50-12:00	AO05-5	**Single-cell RNA sequencing reveals distinct molecular features of high-grade lung adenocarcinoma subtypes.** **Shin Yup Lee** (Republic of Korea)*, Jusung Lee, Ji Yun Jeong, Jong Kyung Kim, Mi Jeong Hong, Jin Eun Choi, Hyo-Gyoung Kang, Jang Hyuck Lee, Sunwoong Lee, Young Woo Do, Eung Bae Lee, Ji Eun Park, Sun Ha Choi, Hye Won Seo, Yong Hoon Lee, Seung Soo Yoo, Jaehee Lee, Seung Ick Cha, Chang Ho Kim, Jae Yong Park
12:00-12:10	AO05-6	**Artificial intelligence-based personalized survival prediction using clinical and radiomics features in patients with advanced non-small cell lung cancer** **Junji Koyama** (Japan)*, Masahiro Morise, Taiki Furukawa, Shintaro Oyama, Reiko Matsuzawa, Ichidai Tanaka, Keiko Wakahara, Hideo Yokota, Tomoki Kimura, Yoshimune Shiratori, Yasuhiro Kondoh, Naozumi Hashimoto
12:10-12:20	AO05-7	**Lung Cancer Screening with Low-Dose CT in Never Smokers and Smokers: the real-world data in South Korea** **Yunjoo Im** (Republic of Korea)*, Chohee Kim, Jinyoung Lee, Jung Hye Hwang, Sun Hye Shin, Byeong-Ho Jeong, Kyungjong Lee, Hojoong Kim, Ho Yun Lee, Sang-Won Um
12:20-12:30	AO05-8	**Assessment of traditional risk factors in Lung Cancer Patients who do not fit into NLST criteria** **Sean Chee Hong Loh** (Singapore)*, Jiashen Zhao, Daniel Jia Ming Ang, Wui Mei Chew, Jansen Meng Kwang Koh

Oral 6 | 11:10-12:40 | ASEM Ballroom 202+203 (2F)

Respiratory Infections (non-tuberculous) - Covid-19 infection - Diagnosis and Predictive factors

Chair: **Jang-Won Sohn** (Hanyang University College of Medicine, Republic of Korea)

11:10-11:20	AO06-1	**The correlation of serum fibrinogen levels and the degree of pulmonary fibrosis among COVID-19 patients using post mortem core biopsy** **Adhitri Anggoro** (Indonesia)*, Isnin Anang Marhana, Etty Hary Kusumastuti
11:20-11:30	AO06-2	**Clinical characteristics and risk factors associated with mortality of patients with COVID-19 at Bussarakham Field Hospital, Thailand** **Thotsaporn Morasert** (Thailand)*, Kittisak Agsornwong, Kornkrit Limsommut, Phongsak Nitikaroon, Osaree Akaraborworn, Jintana Srisompong, Direk Deesiri, Kavalin Chuencharoensuk, Kanchanat Sangnak, Nitipatana Chierakul
11:30-11:40	AO06-3	**Exploratory study of predictive factors of disease progression in the early stage of COVID-19** **Yoshifumi Suzuki** (Japan)*, Tetsutaro Nagaoka, Yuichi Nagata, Takashi Yoshida, Takeo Tsutsumi, Sachiko Kuriyama, Yoko Tabe, Kazuhisa Takahashi
11:40-11:50	AO06-4	**Prognostic factors for pulmonary fibrosis followed by pneumonia in patient with COVID-19** **Inhan Lee** (Republic of Korea)*, Joohae Kim, Ji Yeon Lee, Ina Jeong, Joon-Sung Joh, Gayeon Kim, Min-Kyung Kim, Jaehyun Jeon, Bum Sik Chin, Yeonjae Kim, Yohwan Yeo, Yup Yoon, Sung Chan Jin, Junghyun Kim
11:50-12:00	AO06-5	**Association between Cardiovascular Diseases with Pneumonia COVID-19 Clinical Outcome in Jakarta, Indonesia: a Retrospective Cohort Multi-center Study** **Farhan Mubarak** (Indonesia)*, Erlina Burhan, Siti Aliyah Said Utriyani, Cut Yulia Indah Sari, Efriadi Ismail, Puji Astuti
12:00-12:10	AO06-6	**The Changes in Antibody Responses Induced by the BNT162b2 mRNA COVID-19 Vaccine in Healthcare Workers in a Single Community Hospital in Japan** **Shinya Otsuka** (Japan)*, Kei Hiraoka, Masato Suzuoki, Hideki Ujiie, Tatsuya Kato, Isao Yokota, Kazuya Yonezawa, Keiji Oguma, Nozomu Iwashiro, Mototsugu Kato, Masanori Ohara
12:10-12:20	AO06-7	**'Long covid' is more common, underestimated, important health issue in Post covid-19 care setting: Prospective, observational and interventional study of 6000 cases in tertiary care setting in India.** **Shital Patil** (India)*, Rajesh Patil, Gajanan Gondhali, Laxman Kasture, Uttreshwar Dhumal, Ganesh Narwade, Abhijit Acharya

Oral 7 | 14:00-15:30 | Grand Ballroom 104 (1F)

COPD

Chair — **So Ri Kim** (Chonbuk National University Medical School, Republic of Korea)

14:00-14:10	AO07-1	**The effect of N-acetylcysteine nebulizer therapy on chronic obstructive pulmonary disease** **Chin Kook Rhee** (Republic of Korea)*, Seong Yong Lim, Won-Yeon Lee, Ji Ye Jung, Yong Bum Park, Chang Youl Lee, Yong Il Hwang, Jin Woo Song, Won-Il Choi, Kwang Ha Yoo
14:10-14:20	AO07-2	**Association of N-terminal proB-type Natriuretic Peptide (NT-proBNP) with airflow limitation and exacerbation in COPD** **Hey Soo Kim** (Republic of Korea)*, Youlim Kim, Ji yong Moon, Yong Bum Park, Kyeong-Cheol Shin, Deog Kyeom Kim, Yong Il Hwang, kyung Hoon Min, Su Jung Um, Woo Jin Kim, Hyung Gyu Yoon, Kwang Ha Yoo, Ki Suk Kwon, Jun Kuk Lee, Ji Ye Jung
14:20-14:30	AO07-3	**Development of a scoring model for the prediction of the effects of discontinuation or addition of inhaled corticosteroid in chronic obstructive pulmonary disease patients** **Jang Ho Lee** (Republic of Korea)*, Sehee Kim, Yeon-Mok Oh
14:30-14:40	AO07-4	**Identification of hub genes of airway epithelial cells in chronic obstructive pulmonary disease** **Lanlan Lin** (China (Mainland))*, Xiaohui Chen, Yuan Xu, Yiming Zeng
14:40-14:50	AO07-5	**Image standardization through kernel conversion of CT in KOCOSS cohort** **Youlim Kim** (Republic of Korea)*, Sojung Shin, Hyun Lee, Chin Kook Rhee, Yong Bum Park, Ki Suck Jung, Kwang Ha Yoo, Kum Ju Chae
14:50-15:00	AO07-6	**Risk of tuberculosis caused by fluticasone propionate versus budesonide in chronic obstructive pulmonary disease: a nationwide population based study** **Iseul Yu** (Republic of Korea)*, Se Hwa Hong, Sunmin Park, Min-Seok Chang, Seok Jeong Lee, Suk Joong Yong, Won-Yeon Lee, Sang-Ha Kim, Ji-Ho Lee
15:00-15:10	AO07-7	**Association of 18F--FDG uptake in semi-quantitative PET/CT with emphysema progression in smokers: a retrospective observational study** **Kensuke Fukuda** (Japan)*, Hirotaka Matsuzaki, Yukihiro Nomura, Takahiro Nakao, Toshihiro Yamaguchi, Shouhei Hanaoka, Akira Saito, Takahide Nagase, Takeharu Yoshikawa
15:10-15:20	AO07-8	**COPD is a risk factor for COVID-19, but does not confer increased severity of the disease** **Jong Seung Kim** (Republic of Korea)*, Jae Seok Jeong, Yeon Seok You, Jong-Hwan Lee, Sang Woo Yeom, Yong Chul Lee

Oral 8 | 14:00-15:30 | Grand Ballroom 105 (1F)

Lung Cancer - Diagnosis and Epidemiology

Chair — **Seung Joon Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)

14:00-14:10	AO08-1	**Clinical utility of endobronchial ultrasound-guided transbronchial needle aspiration in clinical N1 non-small cell lung cancer patients** **Bo-Guen Kim** (Republic of Korea)*, Sun Hye Shin, Hongseok Yoo, Kyungjong Lee, Sang-Won Um, Hojoong Kim, Jong Ho Cho, Jhingook Kim, Young Mog Shim, Byeong-Ho Jeong
14:10-14:20	AO08-2	**The superiority of bronchial washing fluid for detection of EGFR mutations by droplet digital PCR in lung adenocarcinoma** **Woo Kyung Ryu** (Republic of Korea)*, Seung Hyun Yong, Sang Hoon Lee, Hye Ran Gwon, Chi Young Kim, Yoon Soo Chang, Eun Young Kim
14:20-14:30	AO08-3	**A Prospective Phase 2 Study of Rapid Detection and EGFR-TKI Initiation by EV-based BALF Liquid Biopsy in Advanced NSCLC Patients** **In Ae Kim** (Republic of Korea)*, Jae Young Hur, Hee Joung Kim, Wan Seop Kim, Kye Young Lee
14:30-14:40	AO08-4	**Diff-Quik smears from EBUS TBNA procedures: evaluating measures of tumour cellularity and feasibility of whole genome sequencing (WGS)** **David Fielding** (Australia)*, Andrew Dalley, Mahendra Singh, Lakshmy Nandakumar, Vanessa Lakis, Haarika Chittoory, Farzad Bashirzadeh, Michael Bint, Carl Pahoff, Jung Son, Alan Hodgson, Sowmya Sharma, David Godbolt, Kylie Coleman, Lenore Whitfield, Nicola Waddell, Sunil Lakhani, Katia Nones, Gunter Hartel, Peter Simpson
14:40-14:50	AO08-5	**Successful culture of lung cancer organoid derived from cryo-biopsy sample of lung cancer** **Chaeuk Chung** (Republic of Korea)*, Dongil Park, Dahye Lee, Yeon-Jae Lee, Yoonjoo Kim, Da Hyun Kang, Jeong Eun Lee, Min-Kyung Yeo
14:50-15:00	AO08-6	**Establishment of human lung cancer organoids using EBUS-TBNA specimens and surgical tissues** **Sang-Won Um** (Republic of Korea)*, Mina Hwang, Seonae Jang, Hyeon-Jun Choi
15:00-15:10	AO08-7	**COX-2 and IL-6 are associated with progressive stages and metastasis process in advanced NSCLC** **Santoso Arif** (Indonesia)*, Mustang Ahmad, Munawarrah Sitti
15:10-15:20	AO08-8	**The Associations of Hypertension Medication with Lung Cancer Risk and related Mortality** **Juwhan Choi** (Republic of Korea)*, Sue In Choi, Dong Won Park, Sung Yong Lee

Oral 9	14:00-15:30	ASEM Ballroom 202+203 (2F)
Interstitial Lung Disease		
Chair	Rachel S. Knipe (Massachusetts General Hospital, U.S.A.)	
14:00-14:10	AO09-1	**The preventive effects of statin on lung cancer development in patients with idiopathic pulmonary fibrosis using National Health Insurance Service Database in Korea** **Yoo Jung Lee** (Republic of Korea)*, Junghyun Nam, Eung Gu Lee, Jiwon Ryoo, Soon Seog Kwon, Yong Hyun Kim, Hye Seon Kang
14:10-14:20	AO09-2	**Health-related quality of life in a multi-ethnic Asian interstitial lung disease cohort** **Gin Tsen Chai** (Singapore)*, Geak Poh Tan, Grace Phua, Hwee Pin Phua, Wei-Yen Lim, Han Yee Neo
14:20-14:30	AO09-3	**Monitoring of cough in patients with ILD by smartphone application: Preliminary results** **Jong Sun Park** (Republic of Korea)*, Byoung Soo Kwon, Cathering Song, Jiyoung Jung
14:30-14:40	AO09-4	**Prognostic implication of 1-year decline in diffusing capacity in newly diagnosed IPF** **Hyeonsu Lee** (Republic of Korea)*, Jimyung Park, Sun Mi Choi
14:40-14:50	AO09-5	**Clinical characteristics and outcomes of hypersensitivity pneumonitis in South Korea** **Sungmin Zo** (Republic of Korea)*, Man Pyo Chung, Hongseok Yoo
14:50-15:00	AO09-6	**The incidence and risk factors of persistent pulmonary fibrotic change after COVID-19 infection.** **Yongjae Choi** (Republic of Korea)*, Ganghee Chae, Chui Yong Park, Jin Hyoung Kim, Kwang Won Seo, Seung Won Ra, Jong Joon Ahn, Yangjin Jegal
15:00-15:10	AO09-7	**Quantitative evaluation of changes in three-dimensional CT density distributions in pulmonary alveolar proteinosis after GM-CSF inhalation** **Miku Oda** (Japan)*, Kentaro Yamaura, Haruyuki Ishi, Hirofumi Nonaka, Takahiro Tanaka, Yoshikazu Inoue, Shinya Ohkouchi, Nobutaka Kitamura, Koh Nakata
15:10-15:20	AO09-8	**Acute exacerbation of progressive fibrosing interstitial lung disease: incidence and outcomes** **Jiyoul Yang** (Republic of Korea)*, Jin Woo Song
15:20-15:30	AO09-9	**Impact of non-tuberculous mycobacterial pulmonary disease on clinical outcomes in idiopathic pulmonary fibrosis: a landmark analysis** **Jin-Young Huh** (Republic of Korea)*, Sehee Kim, Kyung-Wook Jo, Tae Sun Shim, Jin Woo Song

Oral 10	15:50-17:20	Grand Ballroom 105 (1F)
COPD		
Chair	Ji-Hyun Lee (CHA University, Republic of Korea)	
15:50-16:00	AO10-1	**Developing and Validating the NEAR Models for Integrated Prediction of the 30-day Re-exacerbation and Readmission in Patients Hospitalized with Acute Exacerbation of COPD in China** **Ye Wang** (China (Mainland))*, Ruoxi He, Xiaoxia Ren, Ke Huang, Fen Dong, Jieping Lei, Ting Yang, Chen Wang
16:00-16:10	AO10-2	**Validation and optimization of COPD population screener questionnaire (COPD-PS) in Chinese population: A national multicenter study** **Yan Chen** (China (Mainland))*, Zijie Zhan, Yiming Ma, Yahong Chen, Jing Zhang, Wen Li, Zhiyi He, Jungang Xie, Haijin Zhao, Anping Xu, Kun Peng, Gang Wang, Qingping Zeng, Ting Yang, Chen Wang
16:10-16:20	AO10-3	**Clinical characteristics of tuberculosis-destroyed lung chronic obstructive pulmonary disease** **Tai Joon An** (Republic of Korea)*, Seohyun Kim, Jeong-Uk Lim, Chan Kwon Park, Hyoung-Kyu Yoon
16:20-16:30	AO10-4	**Heart-rate recovery immediately after exercise is useful in exacerbation prediction in chronic obstructive pulmonary disease when spirometry is not available** **Shih-Yu Chen** (Taiwan)*, Chun-Kai Huang, Chia-Ling Wu, Hui-Chuan Peng, Chong-Jen Yu, Jung-Yien Chien
16:30-16:40	AO10-5	**Evaluation of the effectiveness of the advanced Evidence-Based Practice (EBP) Programme – Bundle of care to prevent COPD unplanned readmission** **P K Maggie Lit** (Hong Kong)*, S W Ng, C E Tai, YHG Chan, MC Chow, CM Li, H C Chui, P K Ng, K L Cheng, Y M Lee, CML Li, K M Mak, KYR Lau, C Y Pong, K F Cheng, Y K Ho, SKS Wong, SLE Wong, KCH Lam
16:40-16:50	AO10-6	**Mobile application based pulmonary rehabilitation in patients with chronic obstructive pulmonary disease** **Chiwook Chung** (Republic of Korea)*, Min-Woo Jo, Sei Won Lee
16:50-17:00	AO10-7	**Prognostication using the severity classification based on Rome proposal for acute exacerbation of chronic obstructive pulmonary disease** **Hyo Jin Lee** (Republic of Korea)*, Hyun Woo Lee, Jung-Kyu Lee, Tae Yeon Park, Eun Young Heo, Deog Kyeom Kim
17:00-17:10	AO10-8	**Association between depression and anxiety index and frequency of acute exacerbation in chronic obstructive pulmonary disease.** **Yu Jin Hong** (Republic of Korea)*, Ki-Suck Jung, Kwang Ha Yoo, Chin Kook Rhee, Joon Young Choi

Oral 11	15:50-17:20	ASEM Ballroom 202+203 (2F)
Critical Care Medicine - COVID		
Chair	Chi Ryang Chung (Sungkyunkwan University School of Medicine, Republic of Korea)	
15:50-16:00	AO11-1	**Clinical characteristics and risks to mortality among severe patients with COVID-19 from B.1.617.2 (Delta) variant** **Giap Vu Van** (Viet Nam)*, Thanh Do Van, Toshie Manabe, Vuong Nong Minh, Yuji Fujikura, Dung Phan, Cuong Do Duy, Nguyen Nguyen Trung, Thai Nguyen Quoc, Thanh Dong Van, Chinh Luong Quoc, Dan Kambayashi, Anh Hoang Viet, Nhan Vu Van, Giang Trinh Kim, Son Do Ngoc, Chi Nguyen Van, Tuan Dang Quoc, Koichiro Kudo, Co Dao Xuan
16:00-16:10	AO11-2	**The Utility of Estimating the Shunt Fraction of Critical Patients with COVID-19 in determining the outcome of High Flow Nasal Cannula at Lung Center of the Philippines, a pilot study.** **Sheila Grail Ganangan-Mandaiyas** (Philippines)*, Marvic Raymond Gabitan, Dennis Teo, Newel Nacpil
16:10-16:20	AO11-3	**Extracorporeal membrane oxygenation or prone positioning for COVID-19 acute respiratory distress syndrome: a prospective multicenter observational study** **Won-Young Kim** (Republic of Korea)*, Ganghee Chae, Chi Ryang Chung, Young-Jae Cho, Jinwoo Lee, Yangjin Jegal, Junghyun Kim, Joon-Sung Joh, Tae Yun Park, Jung Hwa Hwang, Bo Da Nam, Jin Woo Song
16:20-16:30	AO11-4	**'Radiological Phenotypes' in Covid-19 Pneumonia: Retrospective, Multicentric study of 6000 cases in tertiary care setting in India** **Shital Patil** (India)*, Rajesh Patil, Gajanan Gondhali, Laxman Kasture, Uttreshwar Dhumal, Ganesh Narwade, Abhijit Acharya
16:30-16:40	AO11-5	**Comparison of pulmonary fibrosis between delta and non-delta variant periods in critically ill patients with SARS-CoV-2: A multicenter observational study in South Korea** **Jung-Wan Yoo** (Republic of Korea)*, Ganghee Chae, Won-Young Kim, Chi Ryang Chung, Young-Jae Cho, Jinwoo Lee, Yangjin Jegal, Junghyun Kim, Joon-Sung Joh, Tae Yun Park, Ae-Rin Baek, Joo Hun Park, Bo Da Nam, Jung Hwa Hwang, Jin Woo Song
16:40-16:50	AO11-6	**Association of corticosteroid or paralytic use with mortality in patients with H1N1, non-H1N1/COVID-19, and COVID-19 acute respiratory distress syndrome: a nationwide cohort study** **Won-Young Kim** (Republic of Korea)*, Kyoung-Eun Kwon, Sun-Young Jung, Moon Seong Baek, Hae In Jung
16:50-17:00	AO11-7	**Treatment outcomes and healthcare resource use in critically ill COVID-19 patients in Korea: a nationwide multi-center cohort study** **Woo Hyun Cho** (Republic of Korea)*, Jin Ho Jang, Eunjeong Son, Doosoo Jeon, Yun Seong Kim, Taehwa Kim

POSTER EXHIBITION

Poster Exhibition

Clinical Respiratory Medicine

AP01-1	**Effects of vaccination by age subgroup on the respiratory outcomes in patients with breakthrough COVID-19 infections** **Jieun Kang** (Republic of Korea)*, Jiyeon Kang, Woo Jung Seo, So Hee Park, Hyung Koo Kang, Hyeon-Kyoung Koo, Hye Kyeong Park, Sung-Soon Lee
AP01-2	**Association between ferritin serum level and oxygen supporting demand in COVID-19 patient during hospitalization** **Russilawati Russilawati** (Indonesia)*, Irvan Medison, Elsa Purnama Sari, Masrul Basyar, Dewi Wahyu Fitrina, Afriani Afriani
AP01-3	**Comparative Study of Clinical Outcomes of Severe and Critical COVID-19 Patients With and Without Hemoperfusion Admitted in a Referral Hospital** **Ralph Moses Royeca** (Philippines)*, Maebritt Wincent Tibubos, Glynna Ong-Cabrera, Paul Rilhelm Evangelista, Mary Claire Orden, Amor Patrice Estabillo, Ramon Mora
AP01-4	**Pulmonary function tests in the aftermath of covid infection in a cohort of national level athletes** **Ruwanthi Jayasekara** (Sri Lanka)*, Wijitha Nissanka, Rukmal Karunanayake, Lal Ekanayake, Suresh Chathurantha, Amitha Fernando
AP01-5	**Tent using for MOTT patient undergoes antibiotics nebulizer to minimise environmental contamination under COVID 19 Pandemic** **Pui Chi Ling** (Hong Kong)*, Chau Ho Kristy Chan, Mei Yu Chan, Sin Man Kerrie Leung
AP01-6	**Clinical Characteristics of COVID-19 between ICU and non-ICU patients** **Tuan Muhammad Syukri Tuan Kob** (Malaysia)*, Allim Khairuddin, Muhammad Syafiek Mohd Razali, M Ridhwan Abd Razak, Zahiah Abd Aziz, Juita Hassan, Muhammad Amin Ibrahim
AP01-7	**Pulmonary alveolar proteinosis after COVID-19 infection: a possible association.** **Ayesha Jayawardana** (Sri Lanka)*, Madushi Nanayakkara, Chandana Dahanayake, Malinda Hettiarachchi, Eshanth Perera
AP01-8	**Clinical Outcome of Supervised Pulmonary Telerehabilitation Program among Adult Patients with Post-Acute COVID-19 Symptoms (PACS): A Case Series** **Nikko John Dalisay** (Philippines)*, Bernice dela Cruz, Percival Punzal, Ma. Encarnita Limpin
AP01-9	**PSI, CRB-65 and MuLBSTA scores for predicting severity and mortality among hospitalized COVID-19 Pneumonia patients at Chinese General Hospital and Medical Center** **Yonica Marie Dy** (Philippines)*, Jamie Chua
AP01-10	**Predictors of Poor Outcomes in Unvaccinated COVID Pneumonia Patients: A Retrospective Study** **Safa Shafee** (Sri Lanka)*, Duminda Yasaratne, Arjuna Madagama, Nuwani Nissanka
AP01-11	**Severe melioidosis after covid pneumonia: a chameleon to watch out** **Ruwanthi Jayasekara** (Sri Lanka)*, Lakmini Dassanayake, Amitha Fernando

AP01-12	**Dapsone induced Methemoglobinemia: A case of hypoxia overlooked in a patient during covid pandemic**
	Sadia Sultana Resma (Bangladesh)*, Tazrin Farhana, Sheikh Shahinur Hossain, Kazi Saifuddin Bennoor, Mohammad Ferdous Wahid, Mohammad Ali Hossain, Fateh Akram
AP01-13	**Effect of excessive high-dose corticosteroids in patients with ARDS caused by COVID-19**
	Kyung-Eui Lee (Republic of Korea)*, Hyo-Jin Lee, Tae Yeon Park, Kwang Young Choi, Hyun Woo Lee, Jung-Kyu Lee, Deog Kyeom Kim, Eun Young Heo
AP01-14	**An Observational Study of Demographic and Clinical Profile of COVID-19 Suspected Patients Attending in a Tertiary Care Hospital in Bangladesh**
	K. M. Monir Hossain (Bangladesh)*, M. Haque Mollah, M. A. Jalil Ansari, Lubaib Manzoor, Humaira Tabassum
AP01-15	**Clinical Profiles of COVID-19 Patients Associated with Acute Hypoxemic Respiratory Failure (AHRF) requiring High Flow Nasal Cannula (HFNC) Therapy in a Tertiary Hospital in Metro Manila**
	Angelica Pearl Reyes (Philippines)*, Patrick Gerald Moral, Isaias Lanzona
AP01-16	**Physiotherapy practices when treating patients with COVID-19 during a pandemic: A survey study**
	Anthony Trojman (Australia)*, Judith Hough, Julie Hides, Louise Gustafsson, Orlando Flores, Jennifer Paratz
AP01-17	**Persistent hiccups: "An unsung presentation of Covid 19 pneumonia with delta variant"**
	Niranjan Chandramal (Sri Lanka)*, Asha Samaranayake, Sameera Gamlath, Arthihai Srirangan, Ravini Karunathilaka
AP01-18	**Immunosuppressant and SARS-CoV-2 vaccine antibody response after lung transplantation**
	Eun Jeong Choi (Republic of Korea)*, Hye Ju Yeo, Seung Eun Lee
AP01-19	**Screening for respiratory disease abnormalities with cough sounds collected by smartphones: A prospective study**
	Kyoung Min Moon (Republic of Korea)*, Ji-Ho Lee, JinHee Jeon, Choongki Min, Kyungnam Kim, Sanghoon Han, Taejin Kim, Myung Pyo Kim, Young Mi Park
AP01-20	**Acute oxygen therapy: an audit of oxygen charting practices at a tertiary hospital in Sydney, Australia**
	Dong Seok Yi (Australia)*, Ryan Kahn, Darrin Penola, Yasmina Serinel, Katrina O Tonga
AP01-21	**The Efficacy of High Flow Nasal Cannula as First Line Oxygen Therapy in Patients with Acute Cardiogenic Pulmonary Edema: A Meta-Analysis**
	Feliciano Jan Christian (Philippines)*, Dela Torre-Mangente Rachelle Kaye, Albay Albert
AP01-22	**Heterogeneity of Asthma-Chronic obstructive pulmonary disease (COPD) overlap by comparison of ACO from severe asthma and COPD cohort**
	Yong Suk Jo (Republic of Korea)*, Kwang Ha Yoo, Ki-Suck Jung, Hyoung Kyu Yoon, Chin Kook Rhee
AP01-23	**Can Patients Achieve Sufficient Peak Inspiratory Flow Rate (PIFR) With Turbuhaler ® During Acute Exacerbation of Asthma?**
	Nur Azimah Mohd Rhazi (Malaysia)*, Jaya Muneswarao, Fatimatuazzahra Abdul Aziz, Baharudin Ibrahim, Azlan Kamalludin

AP01-24	**Comparison Between Fractional Exhaled Nitric Oxide (FeNO) In Patients With Rheumatoid Arthritis And Normal Population**
	Anas Mat Asis (Malaysia)*, Mohd Arif Mohd Zim, Hazlyna Baharuddin, Shereen Ch'ng Suyin, Muhammad Amin Ibrahim
AP01-25	**Intrapleural fibrinolysis is non-inferior to surgery for management of pleural infection refractory to antibiotics and thoracostomy drainage**
	Xinxin Hu (Australia)*, Bapti Roy, Peter Wu
AP01-26	**A diagnostic dilemma of Tuberculous pleurisy in a patient with Systemic Lupus Erythematosus**
	Tharmini Ethirmannasingham (Sri Lanka)*, Ravini Karunathilaka, Monika De Silva, Sameera Gamlath
AP01-27	**Catamenial pneumothorax in a young Sri Lankan female – An uncommon aetiology for recurrent pneumothorax**
	Sameera Gamlath (Sri Lanka)*, Tharmini Ethirimannasingham, Malika Udugama
AP01-28	**Bilateral chylothorax in a 63-year old Female: how come?**
	Marelyn Jao (Philippines)*, Richmond Gregorio
AP01-29	**"Fate of a TACE": A rare case of Empyema developed following Trans Arterial Chemo Embolization (TACE) for hepatocellular Carcinoma (HCC).**
	Niranjan Chandramal (Sri Lanka)*, Chandana Dahanayaka, Madushi Nanayakkara, Ravini Karunathilaka, Eshanth Perera
AP01-30	**A Case of Tuberous Sclerosis Complex-Associated Lymphangioleiomyomatosis presenting as Recurrent Seizures**
	Camille Anne San Miguel (Philippines)*, Eloisa Trina Generoso
AP01-31	**Pulmonary lymphangioleiomyomatosis and renal angiomyolipoma in a patient with systemic lupus erythematosus: A case report**
	Jeong Suk Koh (Republic of Korea)*, Sina Oh, Chaeuk Chung
AP01-32	**Transudative chylothorax - a rare manifestation of liver cirrhosis with portal hypertension**
	Boon Hau Ng (Malaysia)*, Hsueh Jing Low, Andrea Yu-Lin Ban, Nik Nuratiqah Nik Abeed, Mohamed Faisal Abdul Hamid
AP01-33	**Pulmonary sequestration in adult patients: a single-center retrospective study**
	Yan Hu (China (Mainland))*, Siying Ren, Lulu Yang, Ying Xiao
AP01-34	**Metastatic pulmonary calcification: an exceptional complication associated with end-stage renal disease mimicking transbronchial infection**
	Napat Jirawat (Thailand)*, Vorawut Thanthitaweewat
AP01-35	**Plastic bronchitis presenting as incessant sputum expectoration: a case report**
	Kriselle Felicia Lumunsad (Philippines)*, Emily Aventura, Christine Chavez, Jay Andrew Ilagan, Noel Michael Supremo, Annaleene Michelle Ferrater-Alcober, Mirasol Aboga-Pacheco
AP01-36	**The interest of bronchoscopy in diagnosis of the patients with non-resolving pneumonia in Calmette Hospital, Phnom Penh, Cambodia**
	Menghak Heng (Cambodia)*, Bunpaul Chhar, Sarin Chan, Chanty Ny, Mich Vann

Cell and Molecular Biology	
AP02-67	**M1 macrophages ameliorate pulmonary fibrosis and promote alveolar regeneration via paracrine actions**
	Dongwook Cho (Republic of Korea)*, Ji-Young Kim, Suji Jeong, Seok-Ho Hong
AP02-68	**Conventional and Electronic Cigarettes Aggravate Inflamation in Rats Induced High-Fat Diet**
	Ahmad Alvin Noor Muchtar (Indonesia)*, Naufal Arif Ismail, Dwi Nur Ahsani
AP02-69	**Profibrotic role of high mobility group box1 in tuberculous pleural effusion**
	Wei-Lin Chen (Taiwan)*, Chi-Li Chung
AP02-70	**Enhanced fatty-acid oxidation slows the contribution of AT2 stem cells in the lung repair process after a fibrosis-inducing injury**
	Ahmed E Hegab (Japan)*, Mari Ozaki, Shizuko Kagawa, Koichi Fukunaga
AP02-71	**In silico modification of TRPM8 ligand menthol**
	Eugene Borodin (Russia)*, Pavel Timkin, Eduard Timofeev
AP02-72	**Myeloperoxidase activity and the percentage of neutrophils in the airways of patients with asthma depending on the airway responsiveness to physical stimuli**
	Juliy Perelman (Russia)*, Aleksey Pirogov, Anna Prikhodko, Leonid Nakhamchen
AP02-73	**PINK1 Preserves Pulmonary Endothelial Barrier Integrity in Human Pulmonary Microvascular Endothelial Cells**
	Junghyun Kim (Republic of Korea)*, Minhee Ha, Jisoo Park, So Young Lee, Jinhyung Huh, Se Hee Lee, Eun Kyung Kim, Ji Hyun Lee, Mi Ae Kim
AP02-74	**Single cell transcriptomics in blood of patients with COPD**
	Yeonjeong Heo (Republic of Korea)*, Jeeyoung Kim, Da Hye Moon, Jeongwon Heo, Yoonki Hong, Seok-Ho Hong, Seon-Sook Han, Seung-Joon Lee, Woo Jin Kim
Clinical Allergy & Immunology	
AP03-77	**BioNTech (BNT) vaccine induced immune neuropathy**
	Nurgul Naurzvai (Turkey)*, Bekir Enes Demiryurek
AP03-78	**Anti Tuberculous Drugs, A double edged sward**
	Madhushi Nanayakkara (Sri Lanka)*, Chandana Dahanayaka, Samadara Nakalanda, Malinda Hettiarachchi, Eshanth Perera
Environmental and Occupational Health and Epidemiology	
AP04-87	**Lady with the Black lung; A case of Anthracosis associated with Pulmonary Tuberculosis**
	Chandana Dahanayake (Sri Lanka)*, Madhushi Nanayakkara, Ayesha Jayawardena, Sandaroo De Silva, Malinda Hettiarachchi, Eshanth Perera
AP04-88	**Soil-Water Aspiration Pneumonia on Tin Miner: A Case Report**
	Liyah Giovana (Indonesia)*, Radian Savani, Halim Thamrinkusdi, Febrina Adriani Purba
AP04-89	**Silicotuberculosis among indonesian underground gold miner: a case report**
	Malsephira Hasmeryasih (Indonesia)*, Agus Dwi Susanto, Erlang Samoedro, Feni fitriani Taufik, Triya Damayanti, Sita Andarini, Ratnawati Ratnawati, Budhi Antariksa
AP04-90	**A Comparison of Atrial Fibrillation Incidence Among Physicians and the General Population**
	Weisyun Hu (Taiwan)*
AP04-91	**Comparison of respiratory symptoms among adults with versus without vaping, smoking, and dual-use: A cross-sectional study in a call center in quezon city**
	Catherine Joy R Tubig (Philippines)*, MA. Encarnita B Limpin
AP04-92	**Vaping Causes Lung Injury**
	Brendon Colaco (United States of America)*, Vichaya Arunthari
AP04-93	**Racial/ethnic specific factors influencing cardiovascular symptoms of midlife women during the menopausal transition**
	Wonshik Chee (United States of America)*, Eun-Ok Im
AP04-94	**Pulmonary function among rural residents in high air pollution area in northern Thailand**
	Pitchayapa Ruchiwit (Thailand)*, Narongkorn Saiphoklang, Kanyada Leelasittikul, Apiwat Pugongchai, Orapan Poachanukoon
AP04-95	**Evaluation of enzyme-linked immunosorbent assay for diagnostic accuracy of Orientia tsutsugamushi**
	Yue-Ting Huang (China (Mainland))*, Yi-Ni Li, Chu-Ting Zhang, Xiang-Qing Shen, Pei-Ying Huang, Min Lin, Chun-Di Hu, Guo-Dong Zhu, Xu-Guang Guo
AP04-96	**Cardiorespiratory Symptoms of Midlife Women During the Menopausal Transition: A Cluster Analysis**
	Wonshik Chee (United States of America)*, Eun-Ok Im
AP04-97	**Arsenic concentration in drinking water and risk of lung cancer**
	Mohammad Imroz (India)*, Mohammad Azharuddin
AP04-98	**Lung function and serum c-reactive protein level of non-asthmatic amateur marathon runners**
	Siyu Dai (China (Mainland))*, Dingbo Shu, Fanjing Meng, Jianping Ding
AP04-99	**Risk Factors of Pediatric Extrapulmonary Tuberculosis from Highly Urbanized Barangays within Cebu City Admitted at Chong Hua Hospital**
	Joseph Raevin Pelayo (Philippines)*, Sheena Cecilia Caputol-Dajab
Respiratory Infections (non-tuberculous)	
AP05-112	**The clinical features and 6 month outcomes for SARS-CoV-2 patients in 2020 and 2021: A prospective cohort study in Sydney, Australia**
	Titus Auyeung (Austrailia)*, William Lin, Teresa Louie, Vicky Chang,

AP05-113	**Risk factors for Pulmonary Fibrosis Followed by Severe Pneumonia in Patients with COVID-19 infection: A Prospective Multi-Center Study**
	Junghyun Kim (Republic of Korea)*, Ganghee Chae, Hee-Young, Yoon Won-Young Kim, Chi-Ryang Chung, Young-Jae Cho, Jinwoo Lee, Yangjin Jegal, Joon-Sung Joh, Tae Yun Park, Jung Hwa Hwang, Bo Da Nam, Jin Woo Song
AP05-114	**Implication of admission eosinophil count and prognosis of Coronavirus disease 2019 (COVID-19) in elderly patients – A territory wide cohort study**
	Wang Chun Kwok (Hong Kong)*, Yat Fung Shea, James Chung Man Ho, David CL Lam, Terence Chi Chun Tam, Anthony Raymond Tam, Mary Sau Man Ip, Ivan Fan Ngai Hung
AP05-115	**Factors affecting Pulmonary and Cardiovascular Outcomes in Adult Covid-19 Confirmed Cases admitted at the Lung Center of the Philippines**
	Aleli de Guzman-Pamplona (Philippines)*, John Paul Serafica, Glynna Ong-Cabrera, Marie Magno
AP05-116	**PREDICTORS FOR SEVERITY OF CORONAVIRUS DISEASE 2019 (COVID-19) PNEUMONIA IN PATIENTS ADMITTED AT A TERTIARY HOSPITAL IN CEBU CITY, PHILIPPINES: A RETROSPECTIVE SINGLE CENTER COHORT STUDY**
	Rio May Llanes (Philippines)*, Karlo Mayol, Maria Teresa Canete, Neil Wayne Salces
AP05-117	**Japan COVID-19 Task Force: a nation-wide consortium to elucidate host genetics of COVID-19 pandemic in Japan**
	Ho Namkoong (Japan)*, Japan COVID-19 Task Force members
AP05-118	**Chronic respiratory disease and resource utilization associated with diabetes mellitus in COVID-19 patients: A meta-analytic synthesis of observational studies**
	Md Azharuddin (India)*, Manju Sharma
AP05-119	**Clinical characteristics and outcomes of COVID-19 infection in lung transplantation recipients**
	Ala Woo (Republic of Korea)*, Moo Suk Park, Song Yee Kim, Kyung Soo Jung, Jin Gu Lee, Hyo Chae Paik, Ah Young Leem, Young Sam Kim, Ji Ye Jung, Seung Hyun Yong, Youngmok Park, Su Hwan Lee, Eun Young Kim, Sang Hoon Lee, Young Ae Kang
AP05-120	**COVID 19 and pneumomediastinum: A case report from Sri Lanka**
	Heshani De Silva (Sri Lanka)*, Saman Kularatne, Sampath Liyanage
AP05-121	**Association of severity with hospital mortality of COVID-19 at Persahabatan Hospital, Jakarta, Indonesia**
	Putri Aisyah (Indonesia)*, R R Diah Handayani, Menaldi Rasmin
AP05-122	**A Case Report : Giant Lung Abscess - HIV, HIV Patient Survives With Giant Lung Abscess Without Surgery**
	Atikanur Atikanur (Indonesia)*, Indra Yovi
AP05-123	**Pneumectomy for Long standing bronchiectasis with recurrent severe symptom in adult**
	Rahmadiana Rahmadiana (Indonesia)*, Teuku Zulfikar, Ferry Dwi Kurniawan, Yopie Afriandi Habibie

AP05-124	**Dual Pathology in one lung - An interesting case report**
	Sugeesha Wickramasinghe (United Kingdom)*, Syed Mehdi, Nidhal Bittar, Lipsita Patnaik
AP05-125	**Clinical case report of lung aspergillosis infection**
	Tumen-Od Dagva (Mongolia)*, Sarantuya Gidaagaya, Munkhtuya Erdenedereg, Khulan Khurelsukh
AP05-126	**Casirivimab-imdevimab and sotrovimab induce a stronger SARS-CoV-2 neutralizing antibody response than remdesivir**
	Yuto Yasuda (Japan)*, Satoru Mutsuo, Kana Fujimoto, Soichi Arasawa, Noriyuki Tashima, Daisuke Iwashima, Ken-ichi Takahashi
AP05-127	**A critically ill Covid-19 pneumonia case with concurrent polymicrobial (bacterial, fungal and viral) secondary infections**
	Affida Ahmad (Malaysia)*, Nasrul Mustafa, Aisya Natasya Musa, Mohd Arif Mohd Zim, Muhammad Amin Ibrahim
AP05-128	**Foreign body aspiration mimicking an endobronchial mass: A case report**
	Heidi Avediz Del Fuerte (Philippines)*, Nazario Macalintal
AP05-129	**Lung biomarker ACE2, IL6, IL10, KL6, TGF Beta of COVID-19 patients: Sex, Geriatric, Brixia, Severity, and Outcome Multi-Analysis Variables**
	Alfian Nur Rosyid (Indonesia)*, Arina Dery Puspitasari, Anggraini Dwi Sensusiati, Erika Soebakti, Jusak Nugraha, Muhammad Amin
AP05-130	**A case of Mycobacterium abscessus treated with modified regime antibiotic in continuation phase**
	Nik Nuratiqah Nik Abeed (Malaysia)*, Boon Hau Ng, Yu Lin Andrea Ban, Mohamed Faisal Abdul Hamid
AP05-131	**Necrotizing Pneumonia in a Patient with Tuberculosis Relapse**
	Muchamad Regi Sonjaya (Indonesia)*, Mohamad Isa, Ira Nurrasyidah
AP05-132	**The Clogged Airway : A Tough Roe to Hoe**
	Haly Rozie Ahmad (Malaysia)*, Siti Rohani Mohd Yakop, Mohd Syahin Syahira Lilah, Syazatul Syakirin Sirol Aflah
AP05-133	**HRCT chest findings in moderate to severe post COVID-19 patients at 4 to 8 weeks follow up.**
	Sharmin Afroze (Bangladesh)*, Mohammad Mohiuddin Ahmad, Aminul Islam, Hena Khatun, Md Touhiduzzaman, Md. Mamun Newaz, Anal Chandra Das, Sharmin Sultana, Mohammad Abdun Nur Sayem
AP05-134	**Recurrent hemoptysis in aspergilloma due to post tuberculosis patient**
	Andi Nurul Ilmi ilmi (Indonesia)*, Irawaty Djaharuddin ira, Edward Pandu Wiriansya edward
AP05-135	**Inhospital death and laboratory features of deceased COVID-19 patient in Dr. Moewardi Hospital, Surakarta, Indonesia**
	Jatu Aphridasari (Indonesia)*, Reschita Adityanti, Rida Rizki Amalia
AP05-136	**The frequency and clinical characteristics and incidence determinant of COVID-19 among pulmonologists and pulmonology residents working in the greater Jakarta Area, Indonesia**
	Aisyah Ayu Safitri (Indonesia)*, Elisna Syahruddin, Erlina Burhan

AP05-137	**The Tropical Masquerader: Tropical Pulmonary Eosonophilia masquerading as miliary tuberculosis**
	Malika Udugama (Sri Lanka)*, Nirasha Jayathilaka, Bandu Gunasena
AP05-138	**Oxidative stress and cataract in patients with COVID-19**
	Eugene Borodin (Russia)*, Leila Nagieva
AP05-139	**Post COVID-19 symptoms at one month of discharge among a vaccinated population**
	Lakshani Kaushalya (Sri Lanka)*, Gayan Bowatte, Duminda Yasaratne, Prasadini Perera, Nuwani Nissanka, Safa Farwin Mohamed Shafee
AP05-140	**Effectiveness of Corticosteroid Administration (Dexamethasone, Methylprednisolone, and Hidrocortison) on LDH, CRP, D-Dimer and PaO2/FiO2 Ratio in COVID 19 Confirmed Critical Degree at Ulin Hospital, Banjarmasin**
	Ira Nurrasyidah (Indonesia)*, Muhammad Zubaidi, Mohamad Isa
AP05-141	**Geriatric with Atypical COVID-19 Symptoms**
	Siti Chandra Widjanantie (Indonesia)*, Irwin Tedja, Muhammad Alkaff, Krisnugra Ramadhani, Dwi Astiny, Cahya Rini, Agus Dwi Susanto
AP05-142	**A COVID 19 confirmed patient who presented with cough and unilateral scrotal pain : A case report**
	Catherine Joy Tubig (Philippines)*
AP05-143	**Chronic aspergillosis causing eosinophilia and invasive aspergillosis with bronchopleural fistula, a case report**
	Madhushi Nanayakkara (Sri Lanka)*, Chandana Dahanayaka, Ayesha Jayawardana, Malinda Hettiarachchi, Eshanth Perera
AP05-144	**An unusual complication in a case of COVID-19: large para-aortic haematoma representing significant internal organ bleeding**
	Dawpadee Dharmasena (United Kingdom)*, Sanka Vijayabandara, Osei Kankam
AP05-145	**An Analysis of Antibody Positive Rate after COVID-19 Vaccination in a Homeless nursing facility**
	Haesook Seo (Republic of Korea)*, Jeeyeon Suh, Shinae Park, Chongkyung Kim, Jeongeun Suh, Yonngsoo Cho, Semin Hwang
AP05-146	**Lung Abscess development after administration of methylprednisolone in a critically-ill COVID-19 patient**
	Everly Joy Balino (Philippines)*
AP05-147	**COVID-19 outcomes associated with clinical and demographic characteristics in patients hospitalized with severe and critical disease in Peshawar**
	Muhammad Imran (Pakistan)*, Azhar Uddin, Yousaf Ali, Sajjad Khan, Abdul Jalil Khan, Zafar Iqal, Rahmanullah Jan, Shahid Khan, Muhammad salman Khan
AP05-148	**The influence of Gender on Characteristics and Outcomes of Coronavirus-19 Patients**
	Song-I Lee (Republic of Korea)*, Chaeuk Chung, Dongil Park, Da Hyun Kang, Ye-Rin Ju, Jeong Eun Lee

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	Putri Alfaridy Lubis (Indonesia)*, Laurentia Cindy Gani Wijaya, Dian Marta Sari
AP14-640	**Reconstructive Airway Surgery in a Penetrating Neck Trauma with Laryngotracheal Injury: Achieving an Adequate Airway, Voice, and Swallowing Outcomes**
	Khoirul Anam (Indonesia)*, Fauziah Fardizza, Bambang Hermani
AP14-641	**One More Chance: A Case of Recurrent Congenital Diaphragmatic Hernia**
	Adjenli Khan (Philippines)*, Mareil Bitoon, Margarett Anne Habawel, Tito Apollo Quitoriano

Pulmonary Circulation

AP15-646	**Acute right lung abscess secondary to pulmonary thromboembolism with left lower limb deep vein thrombosis in a case of left-sided cerebrovascular accident**
	Anish R (India)*, Kriti Agarwal, Anjali Kamath
AP15-647	**Pulmonary embolism as a clinical manifestation of hematogenic thrombophilia**
	Tatiana Luchnikova (Russia)*, Valerii Voitsekhovsky, Tatiana Zabolotskikh, Olga Prikhodko, Irina Sayapina, Irina Kostrova, Elena Romantsova
AP15-648	**Incidental Finding of CTEPH in a Patient Presenting with Seizure, Acquired Arteriovenous Fistula, and Obstructive Sleep Apnea**
	Aprille Anne Octaviano (Philippines)*, Franklin Yu
AP15-649	**"Double edged sword" ; Bilateral Mycotic Pulmonary Artery Aneurysm with Acute Deep Venous Thrombosis Presenting With Massive Hemoptysis with Marfanoid Features**
	Catherine Joy Tubig (Philippines)*, Sherwina Juljani, Lucas Emir Sheik Saturinas, Fernando Ayuyao, Maria Paz Mateo

Interstitial Lung Disease	
AP016-656	**Interstitial lung abnormality in health screening examinees: prevalence and progression**
	Jooae Choe (Republic of Korea)*, Ju Hyun Oh, Han Na Noh, Eun Jin Chae, Jin Woo Song
AP016-657	**Comparison of the efficacy of pirfenidone in patients with combined pulmonary fibrosis and emphysema and idiopathic pulmonary fibrosis without emphysema**
	Hye Ran Gwon (Republic of Korea)*, Song Yee Kim, Jong Sun Park, Moo Suk Park, on behalf of Korean ILD study group
AP016-658	**Pulmonary langerhans' cell histiocytosis in a non-smoker**
	Malika Udugama (Sri Lanka)*, Nirasha Jayathilaka, Bandu Gunasena
AP016-659	**A rare case of interstitial lung disease presenting with intractable shortness of breathing**
	Sameera Gamlath (Sri Lanka)*, Tharmini Ethirimannasingham, Arthihai Srirangan, Ravini Karunathilake
AP016-660	**Heading: Familial interstitial lung disease in four members of one family in Bangladesh A case series**
	Sadia Sultana Resma (Bangladesh)*, Kazi Saifuddin Bennoor, Tazrin Farhana, Sheikh Shahinur Hossain, Mohammad Ali Hossain, Abdus Shakur Khan, Ferdous Wahid
AP016-661	**Characteristics of dyspnea in patients with progressive fibrotic phenotype of interstitial lung diseases (ILD) associated with coronary heart disease (CHD).**
	Alexander Medvedev (Russia)*, Anver Abubikirov, Mikhail Chushkin, Larisa Masaeva, Evgeniy Smelev
AP016-662	**An unusual presentation of a known entity - The great masquerader**
	Sugeesha Wickramasinghe (United Kingdom)*, Syed Ahmad, Syed Mehdi, Mohommed Munavvar, Susan Kearney, Laxmi Narayan Gudur
AP016-663	**The triple trouble - severe connective tissue disease related interstittial lung disease complicated with pneumomediastinum and pulmonary embolism**
	Sampath Liyanage (Sri Lanka)*, Harshana Bandara, Dawpadee Dharmasena, Saman Kularatne, Amila Rathnapala, Sumudu Palihawadana
AP016-664	**Case of Idiopathic pleuroparenchymal fibroelastosis with pneumomediastinum**
	Lakmini Dassanayake (Sri Lanka)*, Amitha Fernando, Madushanka Rathnayake
AP016-665	**Rapidly progressive Interstitial Lung Disease (ILD) in a patient with features of Dermatomyositis - A case report**
	Malinda Hettiarachchi (Sri Lanka)*, Dilanka Tilakaratne, Chandana Dahanayake, Madhushi Nanayakkara, Ayesha Jayawardhana, Samalie Perera, Sumudu Palihawadana, Eshanth Perera
AP016-666	**Lung cancer emerging in a case of fibrotic interstitial lung disease**
	Benjamin Gan (Malaysia)*, Syazatul Syakirin Sirol Aflah, Zuhanis Abdul Hamid
AP016-665	**Challenges in management of lung cancer coexisting with idiopathic pulmonary fibrosis**
	Minalosani Arumugam (Malaysia)*, Albert Iruthiaraj Lourdesamy Anthony
AP016-668	**Rituximab induced pneumonitis in a patient with Sero-positive Rheumatoid arthritis - A rare complication**
	Sugeesha Wickramasinghe (United Kingdom)*, Saleel Punnilath, Thyusha Deveneni, Mohommed Munavvar, Syed Mehdi
AP016-669	**Organizing pneumonia following neoadjuvant chemotherapy in a patient with breast carcinoma. A diagnostic challenge**
	Madushanka Rathnayake (Sri Lanka)*, Lakmini Dassanayake, Ruvanthi Jayasekara, Amitha Fernando
AP016-670	**A Rare Cause of Rapidly Progressive Respiratory Failure**
	Vichaya Arunthari (United States of America)*, Brendon Colaco
AP016-671	**A rare case of Combined pulmonary fibrosis and emphysema associated with systemic sclerosis**
	Lakmini Dassanayake (Sri Lanka)*, Amitha Fernando, Madushanka Rathnayake, Ruwanthi Jayasekara
AP016-672	**Methotrexate induced acute interstitial pneumonia in a patient with seronegative rheumatoid arthritis -a case report**
	Yasith Abeysekera (Sri Lanka)*, Shifa Azher, Amila Rathnapala, Chandima Sapurugala
AP016-673	**A Lady with rough hands and a rash presenting with exertional shortness of breath**
	Chandana Dahanayake (Sri Lanka)*, Madhushi Nanayakkara, Ayesha Jayawardena, Sandaroo De Silva, Malinda Hettiarachchi, Eshanth Perera
AP016-674	**The tale of a dyspneic lady with cystic lungs. A case of primary Sj gren syndrome complicated with lymphoid interstitial pneumonia**
	Madushanka Rathnayake (Sri Lanka)*, Ruwani Perera, Sampath Liyanage, Sandamal Serasinghe, Ruvanthi Jayasekara, Amitha Fernando, Monika de Silva
AP016-676	**Pleuroparenchymal fibroelastosis associated with invasive aspergillosis**
	Malika Udugama (Sri Lanka)*, Nirasha Jayathilaka, Bandu Gunasena
AP016-677	**A case of a mixed connective tissue disease presenting with features of interstitial lung disease and underlying pulmonary tuberculosis**
	Sameera Gamlath (Sri Lanka)*
AP016-678	**Brigatinib induced severe interstitial pneumonitis**
	Dawpadee Dharmasena (United Kingdom)*, Sanka Vijayabandara, Osei Kankam, Agnes Hurter
AP016-679	**Interstitial Lung Disease in association with Anti myositis antibodies: a series of 6 cases.**
	Gaurav Sahu (India)*, Alkesh Kumar Khurana, Abhishek Goyal, Sai Tej Pavirala, Bhupinder Kumar Rajak, Amit Singh
AP016-680	**Diagnosis Dilemma: Pulmonary Veno-occlusive disease- A rare cause of pulmonary hypertension**
	Arthihai Srirangan (Sri Lanka)*, Niranjan Chandramal, Asha Samaranayake, Ravini Karunathilaka

AP016-681	**Hemoptysis with progressive breathlessness in an otherwise healthy adult, a common presentation of a rare disease**
	Sanjeewa Malinda Hettiarachchi (Sri Lanka)*, Chandana Dahanayake, Madhushi Nanayakkara, Ayesha Jayawardana, Sumudu Palihawadana, Eshanth Perera
AP016-682	**Erasmus Syndrome: A Case Report and Review of Literature**
	Jan Michael Jesse Lomanta (Philippines)*, Mary Antonette Atienza, Juan Raphael Gonzales, Eric Jason Amante, Sheen Urquiza, Hanna Lucero-Orilaza, Joel Santiaguel
AP016-683	**Using antifibrotic drugs as an add-on treatment for lung fibrosis after Covid-19 infection: Two case reports from Vietnam**
	Huy Le Ngoc (Viet Nam)*, Luong Dinh Van, Ngoc Nguyen Thi Bich, Thinh Nguyen Hoang
AP016-684	**Prevalence and risk factors of uveitis in patients with newly diagnosed sarcoidosis in Korea**
	Jang Ho Lee (Republic of Korea)*, Jiyoul Yang, Junyeop Lee, Ho Cheol Kim
AP016-685	**Metastatic gastric signet ring cell carcinoma presenting as interstitial lung disease**
	Margie Angelica Sigue (Philippines)*, Daniel Tan, Roberto De Guzman, Katrina Luna, Renelene Macabeo
AP016-686	**The clinical efficacy of a Mixture of Ivy Leaf Extract and Coptidis rhizome in patients with idiopathic pulmonary fibrosis**
	Ji Hoon Jang (Republic of Korea)*, Hang-Jae Jang, Jae Ha Lee
AP16-687	**Description of Monocyte Counts and Interstitial Lung Disease: A Single ILD Referral Centre in Malaysia.**
	Jin Lee Lim (Malaysia)*, Normaszuhaila Ab Hamid, Noraishah Sulaiman, Syazatul Syakirin Sirol Aflah

ORAL PRESENTATION

19 November

Oral 12	09:20-10:50	Grand Ballroom 104 (1F)
Asthma		
Chair	**Tae-Hyung Kim** (Hanyang University College of Medicine, Republic of Korea)	
09:20-09:30	AO12-1	**CSN5 is involved in asthma via interaction with PD-L1** **An-Soo Jang** (Republic of Korea)*, Seon-Muk Choi, Pureun-Haneul Lee, Da Yeon Hwang, Shinhee Park, Ae Rin Baek, Min-Hyeock Ahn
09:30-09:40	AO12-2	**Effects of human adipose tissue- and bone marrow-derived mesenchymal stem cells on airway inflammation and remodeling in a murine model of chronic asthma ** **Joon Young Choi** (Republic of Korea)*, Jung Hur, Sora Jeon, Chang Kwon Jung, Chin Kook Rhee
09:40-09:50	AO12-3	**Candidate miRNA genes as biomarker in allergic asthma disease** **Halime Yildirim** (Turkey)*, Ender Coskunpinar, Betul Akcesme, Sevgi Kalkanli Tas, Engin Aynaci
09:50-10:00	AO12-4	**Septal deviation could be associated with the development of bronchial asthma: a nationwide cohort study** **Jong Seung Kim** (Republic of Korea)*, Sam Hyun Kwon, Jae Seok Jeong, Yeon Seok You, Jong-Hwan Lee, Sang Woo Yeom, Doo Hwan Kim, Yong Chul Lee
10:00-10:10	AO12-5	**Montelukast and pranlukast related neuropsychiatric events in adults with asthma and rhinitis** **Jae-Woo Kwon** (Republic of Korea Young-Woo Jo, Hyouk-Soo Kwon, Joonhong Min, Young Her
10:10-10:20	AO12-6	**Improvements of Clinical Symptoms and Lung Function in Asthma Patients After Montelukast Therapy at Harum Melati Clinic, Pringsewu Regency, Lampung Province, Indonesia 2017-2020** **Dimas Trend Pinaka Baladika** (Indonesia)*, Retno Ariza Soeprihatini Soemarwoto, Hetti Rusmini, Jordy Oktobiannobel, Siti Indriyani, Diyan Ekawati, Adityo Wibowo
10:20-10:30	AO12-7	**Selecting representative questions in Asthma Control Test** **Min Seok Chang** (Republic of Korea)* , Iseul Yu, Sunmin Park, Ji-Ho Lee, Seok Jeong Lee, Won-Yeon Lee, Suk Joong Yong, Sang-Baek Koh, Sang-Ha Kim
10:30-10:40	AO12-8	**Dupilumab improved lung function and reduced exacerbation rates in patients with moderate-to-severe asthma and prior exacerbations: LIBERTY ASTHMA TRAVERSE study** **Chin Kook Rhee** (Republic of Korea)*, Jonathan Corren, Mario Castro, Jorge F. Maspero, Marc Humbert, David M.G. Halpin, Arman Altincatal, Nami Pandit-Abid, Xavier Soler, Shahid Siddiqui, Juby A. Jacob-Nara, Yamo Deniz, Paul J. Rowe

Oral 13 | 09:20-10:50 | Grand Ballroom 105 (1F)

Pulmonary Circulation - VTE and PH (venous thromboembolism and pulmonary hypertension)

Chair | **Masayuki Hanaoka** (Japan)

09:20-09:30	AO13-1	**Culin5/TRAF6/NF-kb/VEGF-mediated endothelial dysfunction aggravates hypoxic pulmonary hypertension** **Lei Wang** (China (Mainland))*, Jie Liu
09:30-09:40	AO13-2	**Combination of CARSKNKDC (CAR) peptide with sildenafil in the treatment of pulmonary hypertension associated with emphysema induced by SU5416 in rats** **Norihiko Goto** (Japan)*, Yosuke Wada, Yoshiaki Kitaguchi, Masanori Yasuo, Masayuki Hanaoka
09:40-09:50	AO13-3	**Clinical experiences of high-risk pulmonary thromboembolism receiving extracorporeal membrane oxygenation in single institution** **Joonyong Jang** (Republic of Korea)*, Bo Young Lee, Ki-Up Kim, Yang-Ki Kim, Soo-taek Uh, So-My Koo, Youngeun Jang, Wonho Chang
09:50-10:00	AO13-4	**Anticoagulation in Patients with Antiphospholipid Syndrome-associated Venous Thromboembolism: A Nationwide Study** **Hun-Gyu Hwang** (Republic of Korea)*, Ju Hyun Lee, Sang-A Kim, Yang-Ki Kim, Myung-Shin Kim, Junshik Hong, Ho-Young Yhim, Soo-Mee Bang
10:00-10:10	AO13-5	**Correlation of pulmonary artery enlargement in chest CT with Mortality of COVID-19 patients admitted at Manila Doctors Hospital from March-August 2020: A Retrospective Cohort** **Olivia Faye Listanco** (Philippines)*, Jhakelinn Veericah Galang, Albert Albay Jr
10:10-10:20	AO13-6	**Independent Predictors of Pulmonary Embolism in Severe SARS-CoV-2** **Aisya Natasya Musa** (Malaysia)*, Mohd Shahril Ahmad Saman, Bushra Johari, Roqiah Fatmawati Abdul Kadir, Natasha Mohd Arifin, Aida Abdul Aziz, Mohd Arif Mohd Zim
10:20-10:30	AO13-7	**Submassive Pulmonary Embolism Case Series - A Single Tertiary Centre Experience** **Hui Xin Tan** (Malaysia)*, Nurafna binti Mohd Jaafar, Syaza Naqibah Mohamed Noor Rahim, Yen Shen Wong, Mohd Zhafran Zainal Abidin, Muhammad Amin Ibrahim, Aisya Natasya Musa, Mohd Arif Mohd Zim
10:30-10:40	AO13-8	**Clinical characteristics and outcomes of pulmonary hypertension patients who underwent right heart catheterization in Thailand: 5-year retrospective single-center study** **Nichanun Chiansirikraivuti** (Thailand)*, Tunlanut Sapankaew, Pattarin Pirompanich

Oral 14 | 09:20-10:50 | ASEM Ballroom 202+203 (2F)

Critical Care Medicine - Non-covid

Chair | **Young-Jae Cho** (Seoul National University College of Medicine, Republic of Korea)

09:20-09:30	AO14-1	**Association of Clonal Hematopoiesis of Indeterminate Potential with Increased Risk of Acute Respiratory Distress Syndrome** **Eunhye Bae** (Republic of Korea)*, Jung-Ki Yoon, Su-Gyeong Kim, Jimyung Park, Jaeyoung Cho, Nakwon Kwak, Sun Mi Choi, Jinwoo Lee, Young Sik Park, Chang-Hoon Lee, Chul-Gyu Yoo, Sang-Min Lee
09:30-09:40	AO14-2	**Diaphragm thickening fraction for predicting weaning success in COPD patients** **Pongpat Klumusuk** (Thailand)*, Apichart Kanitsap, Pattarin Pirompanich, Pitchayapa Ruchiwit, Narongkorn Saiphoklang, Thiti Sricharoenchai
09:40-09:50	AO14-3	**Association between mechanical power and intensive care unit mortality according to the use of neuromuscular blockade in patients under pressure-controlled ventilation** **Jae Kyeom Sim** (Republic of Korea)*, Sang-Min Lee, Hyung Koo Kang, Kyung Chan Kim, Young Sam Kim, Yun Seong Kim, Won-Yeon Lee, Sunghoon Park, So Young Park, Ju-Hee Park, Yun Su Sim, Kwangha Lee, Yeon Joo Lee, Jin Hwa Lee, Heung Bum Lee, Chae-Man Lim, Won-Il Choi, Ji Young Hong, Won Jun Song, Gee Young Suh
09:50-10:00	AO14-4	**Influences of do-not-resuscitate orders and physician orders for life-sustaining treatment of patients in the medical intensive care unit** **Song-I Lee** (Republic of Korea)*, Chaeuk Chung, Dongil Park, Da Hyun Kang, Ye-Rin Ju, Jeong Eun Lee
10:00-10:10	AO14-5	**Mechanical ventilation in idiopathic pulmonary fibrosis patients in Korea: a nationwide population-based study** **Jae Kyeom Sim** (Republic of Korea)*, Seok Joo Moon, Jae Jeong Shim
10:10-10:20	AO14-6	**The impact of early sedation depth on clinical outcomes in mechanically ventilated patients in Korean intensive care units** **Dong-gon Hyun** (Republic of Korea)*, Jee Hwan Ahn, Ha-Yeong Gil, Chung Mo Nam, Choa Yun, Chae-Man Lim
10:20-10:30	AO14-7	**Endothelial Fgfr1 deficiency worsen LPS induced ALI/ARDS.** **Yue Deng** (China (Mainland))*, Yan Hu, Bisen Ding, Chen Wang
10:30-10:40	AO14-8	**A survey of the awareness and understanding of healthcare staff on rehabilitation for critically ill patients** **Won Jin Lee** (Republic of Korea)*, Eunjeong Son, Jin Ho Jang, Taehwa Kim, Doosoo Jeon, Hye Ju Yeo, Woo Hyun Cho, Seung Eun Lee, Yun Seong Kim

Oral 15 — 11:10-12:40 — Grand Ballroom 103 (1F)

Respiratory Infections (non-tuberculous) - Covid-19 infection - Treatment and Post recovery

Chair — **Do-Jin Kim** (Soonchunhyang University College of Medicine, Republic of Korea)

11:10-11:20	AO15-1	**A community-base pulmonary rehabilitation programme for the elderly recovered from Coronavirus 2019 (COVID-19)** **Ching Man Tiffany Choi** (Hong Kong)*, Kin Kenneth Au Yeung, Kwok Cheong George Wong
11:20-11:30	AO15-2	**Steroid and/or Antifibrotic Treatment on Improvement of Post Covid Lung Function** **Ahmed Masum** (Bangladesh)*, Md Zahir Kamruzzaman, Baqui Billah Syed Muhammad, Kayesh A J M Emrul, Hoshen Mohammad Shahdat, Khan F R, Alam Md Hasibul
11:30-11:40	AO15-3	**Remdesivir Efficacy in Coronavirus Disease: A Randomized trial** **Ibrahim Salaheldin Ibrahim** (Egypt)*, Mohammed hantera, Mohammed Tork, Sherif Abdelslam
11:40-11:50	AO15-4	**Combining Fluvoxamine with Bromhexine prevents clinical deterioration in outpatients with mild to moderate symptomatic SARS-CoV-2, A Randomized Clinical Trial** **Dhammika Leshan Wannigama** (Thailand)*, Cameron Hurst, Phatthranit Phattharapornjaroen, Peter N Monk, Shuichi Abe, Paul G. Higgins, Katika Akksilp, Natchalaikorn Sirichumroonwit, Kanokpoj Chanpiwat, Angela M. Reiersen, Farid Jalali, Stephen M Stick, Anthony Kicic, Parichart Hongsing, Tanittha Chatsuwan
11:50-12:00	AO15-5	**Different treatment response to systemic corticosteroids according to white blood cell counts in severe COVID-19 patients** **Kwang Yong Choi** (Republic of Korea)*, Dong Hyun Kim, Kwang Nam Jin, Hyo Jin Lee, Tae Yun Park, Borim Ryu, Jung-Kyu Lee, Eun Young Heo, Deog Kyeom Kim, Hyun Woo Lee
12:00-12:10	AO15-6	**The effect of nintedanib in post-COVID-19 lung fibrosis: an observational study** **Pimchanok Patanayindee** (Thailand)*, Narongkorn Saiphoklang, Pitchayapa Ruchiwit
12:10-12:20	AO15-7	**Short Term Effects in Pulmonary Function and Chest High Resolution Computed Tomography Scan Among COVID-19 Recovered Adult Patients in a Tertiary Hospital in Davao City** **Benjo Ato** (Philippines)*, Christoper John Quadra, Jessie Orcasitas, Maria Theresa Sanchez, Al Patrick Alajas
12:20-12:30	AO15-8	**Characteristics, Management, and Outcomes of COVID-19 Patients Admitted in a Tertiary Private Hospital in Naga City, Camarines Sur: A Retrospective Cohort Study** **Angelo Roleo Battung** (Philippines)*, James Omana, Jose Manuel Ranola III
12:30-12:40	AO15-9	**Methyprednisolone versus Dexamethasone for severe COVID-19 infection: A retrospective comparative analysis of our early experience.** **Chun Ian Soo** (Malaysia)*, Khai Vern Poon, Atiqah Ayub, Hui Wen You, Cai Xian Tan, Jia Juin Kenneth Loh, Chai Hui Carolyn Eng, Leng Cheng Sia, Nur Husna Ibrahim, Ka Kiat Chin, Thian Chee Loh, Vijayan Munusamy, Mau Ern Poh, Jiunn Liang Tan, Yong Kek Pang, Chong Kin Liam, Chee Kuan Wong

Oral 16 — 11:10-12:40 — Grand Ballroom 104 (1F)

Tuberculosis - Tuberculosis and Others

Chair — **Joonsung Joh** (National Medical Center, Republic of Korea)

11:10-11:20	AO16-1	**Comparison between phenotypic and whole-genome sequencing drug susceptibility testing in multi-drug resistant Mycobacterium tuberculosis isolates from South Korea** **Seung Heon Lee** (Republic of Korea)*, Jee Youn Oh, Taehee Woo, Jake Whang, Sungkyoung Choi, Sungweon Ryu, Hyung Seok Kang, Jungmin Choi, Shinhee Park, Eung gu Lee, Joon Hyuk Lim, Yon Ju Ryu, Yong Il Hwang, Jaekap Lee
11:20-11:30	AO16-2	**False positive rifampicin resistant results by Xpert MTB/RIF point-of-care testing at the Singapore Tuberculosis Control Unit** **Caroline Victoria Choong** (Singapore)*, Jerlyn Huixian Woo, Lovel Galamay, Cynthia Bin Eng Chee
11:30-11:40	AO16-3	**Frequency and probe distribution of rpoB mutations detected by Xpert MTB/RIF in Tuberculosis Control Unit Singapore** **Jerlyn Huixian Woo** (Singapore)*, Caroline Victoria Choong, Lovel Galamay, Cynthia Bin Eng Chee
11:40-11:50	AO16-4	**Minimum Inhibitory Concentration of Bedaquiline and Clofazimine in Drug resistant Mycobacterium Tuberculosis clinical isolates in Korea** **Hee Joo Lee** (Republic of Korea)*, Seungmo Kim, Hwi-Jun Kim, Ryeun Heo, Youn Jung Jun, Hyeon-Su Kim, Jong-Myun Song, Dae-Seon Han, Hongsu Jeong, Sodan Nam, Choi Jimin, Sujin Chae, Gyeongin Lee, Seung-Heon Lee, Hyejin Kim
11:50-12:00	AO16-5	**Isoniazid-resistant tuberculosis is associated with hepatotoxicity: a prospective multicenter cohort study of pulmonary tuberculosis** **Jiwon Ryoo** (Republic of Korea)*, Yeonhee Park, Ju Sang Kim, Hyung Woo Kim, Sung Kyoung Kim, Jin Woo Kim, Yong Hyun Kim, Sang Haak Lee, Jinsoo Min
12:00-12:10	AO16-6	**The proportion of latent tuberculosis infection using interferon gamma release assay in household contact with drug-resistant tuberculosis patients at persahabatan hospital: Preliminary report** **Cahyo Guntoro** (Indonesia)*, Fathiyah Isbaniah, Heidy Agustin
12:10-12:20	AO16-7	**Cardiac dysfunction in Active Pulmonary Tuberculosis: Prospective, Observational and Interventional study in tertiary care setting in India** **Shital Patil** (India)*, Rajesh Patil, Gajanan Gondhali, Laxman Kasture, Abhijit Acharya
12:20-12:30	AO16-8	**Nutritional Status of Hospitalized Tuberculosis Patients In South Kalimantan, Indonesia** **Elok Hikmatun Nikmah** (Indonesia)*, Mohammad Isa, Ira Nurrasyidah, Ali Assagaf, Haryati Haryati, Erna Kusumawardhani, Desi Rahmawaty
12:30-12:40	AO16-9	**Clinical Profile and Outcomes of Covid 19 Patients with Concomitant Pulmonary Tuberculosis: A Cross Sectional Study at Veterans Memorial Medical Center** **Geramie Acebuque** (Philippines)*, Chona De Vera

Oral 17 | 11:10-12:40 | Grand Ballroom 105 (1F)

Lung Cancer - Treatment and Biomarker

Chair — **Seung Hun Jang** (Hallym University College of Medicine, Republic of Korea)

11:10-11:20	AO17-1	**Identification of predictive factors for early relapse in patients with unresectable stage III NSCLC receiving consolidation durvalumab after concurrent chemoradiation** **Jung Hyun Nam** (Republic of Korea)*, Chang Dong Yeo, Chan Kwon Park, Sung Kyoung Kim, Ju Sang Kim, Yong Hyun Kim, Jin Woo Kim, Seung Joon Kim, Sang Hak Lee, Hye Seon Kang
11:20-11:30	AO17-2	**Evaluation of Blood Tumor Mutation Burden for Efficacy of Second- Line Atezolizumab Treatment in Non-small Cell Lung Cancer: BUDDY trial** **Cheol-Kyu Park** (Republic of Korea)*, Ha Ra Jun, Hyung-Joo Oh, Ji-Young Lee, Hyun-Ju Cho, Young-Chul Kim, Jeong Eun Lee, Sung Hoon Yoon, Chang Min Choi, Jae Chul Lee, Sung Yong Lee, Shin Yup Lee, Sung-Min Chun, In-Jae Oh
11:30-11:40	AO17-3	**Soluble PD-L1 levels correlate with efficacy of PD-1/PD-L1 inhibitors in lung cancer** **Da Hyun Kang** (Republic of Korea)*, Jeong Suk Koh, Chaeuk Chung, Dongil Park, Song-I Lee, Jeong Eun Lee
11:40-11:50	AO17-4	**Real-world analysis of the EGFR T790M mutation in plasma and tissue biopsy from advanced non-small cell lung cancer** **Eun Hye Lee** (Republic of Korea)*, Se Hyun Kwak, Chi young Kim, Sang Hoon Lee, Eun Young Kim, Yoon Soo Chang
11:50-12:00	AO17-5	**Clinicopathologic characteristics of NSCLC patients with uncommon EGFR mutations in Korea** **Hye Seon Kang** (Republic of Korea)*, Kyu Yeon Kim, Jeong Uk Lim, Chang Dong Yeo, Ju Sang Kim, Seung Joon Kim, Sang Haak Lee
12:00-12:10	AO17-6	**The clinical outcomes of different first-line treatment strategies in advanced non-small cell lung cancer patients with EGFR exon 20 insertion mutation** **Wei-Fan Ou** (Taiwan)*, Yen-Hsiang Huang, Kuo-Hsuan Hsu, Jeng-Sen Tseng, Po-Hsin Lee, Tsung-Ying Yang
12:10-12:20	AO17-7	**Never-smoker small cell lung cancer had better chemotherapeutic response than smoker** **Ha-Young Park** (Republic of Korea)*, Hyung-Joo Oh, Bo Gun Kho, Hong-Jun Shin, Cheol Kyu Park, Yu-Il Kim, Young-Chul Kim, Taebum Lee, Yoo-Duk Choi, In-Jae Oh
12:20-12:30	AO17-8	**Prognostic values of baseline pulmonary functions in patients with non-small cell lung cancer under immunotherapy** **Jeong Uk Lim** (Republic of Korea)*, Hye Seon Kang, Chang Dong Yeo, Ju Sang Kim, Chan Kwon Park, Jin Woo Kim, Seung Joon Kim, Sang Haak Lee

Oral 18 | 14:00-15:30 | Grand Ballroom 103 (1F)

Environmental & Occupational Health and Epidemiology

Chair — **Jun-Pyo Myong** (The Catholic University of Korea College of Medicine, Republic of Korea)

14:00-14:10	AO18-1	**Clinical Profile of COVID-19 Vaccinated Individuals who Developed Breakthrough Infections: A Systematic Review** **Stephanie Palacios** (Philippines)*, Glenford Refre, Patricio Palmes
14:10-14:20	AO18-2	**Involvement of RAGE and oxidative stress in chronic inflammation** **Jimin Jang** (Republic of Korea)*, Jooyeon Lee, Hyosin Baek, Jaehyun Park, Sang-Ryul Cha, Se Bi Lee, Se-Ran Yang
14:40-14:50	AO18-3	**Combined association of climatic change, air pollution, and green space exposure with risk of respiratory diseases in 6-month-old infants** **Ji-Young Lee** (Republic of Korea)*, Eunji Lee, Jongmin Oh, Dirga Kumar Lamichhane, Yun-Chul Hong, Hye-Sook Park, Yanho Kim, Mina Ha, Eunhee Ha, Jin Hwa Lee
14:50-15:00	AO18-4	**Priming with cytokine B enhances therapeutic capacities of mesenchymal stem cells in acute lung injury (ALI)** **Jooyeon Lee** (Republic of Korea)*, Hyosin Baek, Jimin Jang, Jaehyun Park, Sang-Ryul Cha, Se Bi Lee, Se-Ran Yang
15:00-15:10	AO18-5	**Trends of five year ambient air pollutant levels and hospitalization rate due to respiratory viral infection in Korean children** **Jung Yeon Shim** (Republic of Korea)*, Hyung Gyu Park, Sinae Kim, Miyeon Lee
15:10-15:20	AO18-6	**Effects of PM2.5 exposure on early alveolar development and DNA methylation using human pluripotent stem cell-derived alveolar organoid system** **Minje Kang** (Republic of Korea)*, Seok-Ho Hong
15:20-15:30	AO18-7	**Incidence of silicosis and dust exposure among small-scale gold miners in Mongolia** **Densenbal Dansran** (Mongolia)*, Ichinnorov Dashtseren, Solongo Bandi, Naransukh Damiran, Byambadolgor Dagviikhorol, Bayanmunkh Tseden

Oral 19

14:00-15:30 | Grand Ballroom 104 (1F)

Tuberculosis - Drug Resistant Tuberculosis

Chair: **Yong Soo Kwon** (Chonnam National University Medical School, Republic of Korea)

14:00-14:10	AO19-1	**Features of radiological signs in patients with multidrug-resistant₩extensively drug-resistant pulmonary tuberculosis** **Dmytro Butov** (Ukraine)*, Mykhailo Kuzhko, Mykola Gumeniuk, Nadiya Sapelnik, Olena Borysova, Tetiana Butova
14:10-14:20	AO19-2	**Infiltrate lesion area as a predictor of the likelihood of drug resistance tuberculosis in Indonesia South Sumatera** **Alif Fathurrachman** (Indonesia)*, Miyuki Sari, Zen Ahmad, Linda Andriani, Sudarto Sudarto, Roully Pasaribu, Ahmad Rasyid, Erial Bahar, Yusri Muhamad
14:20-14:30	AO19-3	**Effectiveness of the WHO short treatment (STR) Regimen of MDR-TB** **Sadia Sultana Resma** (Bangladesh)*, Naeem Hossain, Tazrin Farhana, Kazi Saifuddin Bennoor, Md Ali Hossain, Mustafijur Rahman, Sheikh Shahinur Hossain, Mohammad Abdus Shakur Khan
14:30-14:40	AO19-4	**Treatment outcomes of multidrug-resistant tuberculosis with selective use of bedaquiline/delamanid guided by an expert committee: a nationwide cohort study in South Korea** **Yong-Soo Kwon** (Republic of Korea)*, Jung En Shin, Hyungseok Kang, Doosoo Jeon, Jae-Joon Yim, Tae Sun Shim
14:40-14:50	AO19-5	**Effectiveness and safety of Bedaquiline-based, modified shorter treatment regimen for Rifampicin resistant Tuberculosis in Vietnam** **Thi Mai Phuong Nguyen** (Viet Nam)*, Thi Hai Minh Le, Corinne Simone Collette Merle, Debora Pedrazzoli, Nhat Linh Nguyen, Tom Decroo, Binh Hoa Nguyen, Thi Thanh Thuy Hoang, Viet Nhung Nguyen
14:50-15:00	AO19-6	**The myelosuppressive effect of linezolid among drug-resistant tuberculosis patients in Mongolia** **Bolyskhan Baigabyl** (Mongolia)*, Myadagmaa Jaalkhorol, Manaljav Tseden-Ish, Ichinnorov Dashtseren, Odgerel Tsogbadrakh
15:00-15:10	AO19-7	**Ethionamide-induced hypothyroidism in drug-resistance tuberculosis children: how frequently does it happen?** **Citra Cesilia** (Indonesia)*, Muh. Akbar Tirtosudiro, Heda Melinda N. Nataprawira
15:10-15:20	AO19-8	**Sad TB lung: screening of anxiety and depression among multi drug resistant tuberculosis in a tertiary hospital** **Jodie Bancod** (Philippines)*
15:20-15:30	AO19-9	**Analysis of treatment success rates of drug resistant tuberculosis with all oral regimens in South sulawesi** **Jamaluddin Madolangan** (Indonesia)*, Irawaty Djaharuddin, Andi Julia Junus, Ratna Tahir, Uswatun Khasanah, Nurjanah Lihawa

Oral 20

14:00-15:30 | Grand Ballroom 105 (1F)

Clinical Allergy & Immunology

Chair: **Tae-Bum Kim** (University of Ulsan College of Medicine, Republic of Korea)

14:00-14:10	AO20-1	**Correlation of COVID-19 vaccine history and the duration of negative conversion time of COVID-19 patients in Labuang baji hospital and Asrama haji field hospital** **Jamaluddin Madolangan** (Indonesia)*, Irawaty Djaharuddin
14:10-14:20	AO20-2	**Bronchial Thermoplasty or Biologics for Severe Asthma: A Systematic Review and Network Meta-Analysis** **Pyng Lee** (Singapore)*, Khi Yung Fong, Nicholas Syn, Joseph Zhao
14:20-14:30	AO20-3	**The effectiveness of IL-6 and PD-1 antibody blockade combination therapy in a murine model of sepsis** **Song-I Lee** (Republic of Korea)*, Nayoung Kim, Chaeuk Chung, Dongil Park, Da Hyun Kang, Jeong Eun Lee
14:30-14:40	AO20-4	**Severe asthma is associated with adverse COVID-19 outcomes** **Yong Chul Lee** (Republic of Korea)*, Jae Seok Jeong, Hae Jin Park, Kyung Hwa Park, Hee Jung Kim, Yeong Hun Choe, So Ri Kim

Oral 21 | 14:00-15:30 | ASEM Ballroom 202+203 (2F)

Respiratory Neurobiology and Sleep

Chair — **Sang Haak Lee** (The Catholic University of Korea College of Medicine, Republic of Korea)

14:00-14:10	AO21-1	**Effects of chronic intermittent hypoxia on bleomycin induced interstitial pulmonary fibrosis elderly mouse model** **Heayon Lee** (Republic of Korea)*, Sei Won Kim, Hwan Hee Kim, Sukjin Bae, In Kyoung Kim, Chang Dong Yeo, Sang Haak Lee
14:10-14:20	AO21-2	**Prevalence of cognitive impairment and the effect of continuous positive airway pressure (CPAP) towards cognition among patients with obstructive sleep apnoea (OSA)** **Muhammad Farid Mohd Fauad** (Malaysia)*, Ahmad Izuanuddin Ismail, Shalini Bhaskar, Noor Azleen Ahmad Tarmizi
14:20-14:30	AO21-3	**Impact of change in CPAP initiation practice during COVID-19 pandemic on acceptance and short-term adherence.** **Yiting Tang** (Singapore)*, Jonathan Teow Koon Goh, Heng Lun Lee, Muhammad Nur Hakim Bin Abdul Rahim, Karen Chin, Kathy Chan, Ryan Loh, Cherlyn Koh, Chu Qin Phua, Rui Ya Soh
14:30-14:40	AO21-4	**OSAHS can induce retinal microvascular abnormalities** **Yina Wang** (China (Mainland))*, Silei Deng, Jingjie Kuan, Xiao Xiao, Liang Zhou
14:40-14:50	AO21-5	**Factors affecting CPAP adherence in Thai patients with obstructive sleep apnea** **Narongkorn Saiphoklang** (Thailand)*, Kanyada Leelasittikul, Apiwat Pugongchai, Shayada Suksupakit, Nithita Sattaratpaijit
14:50-15:00	AO21-6	**Intermittent hypoxia up regulates mTOR expression in hepatic macrophages through CX3CL1/CX3CR1** **Yayong Li** (China (Mainland))*, Yina Wang
15:00-15:10	AO21-7	**IH can induce apoptosis of macrophage** **Yina Wang** (China (Mainland))*, Jingjie Kuang, Silei Deng, Xiao Xiao, Yuanguo Chen, Yayong Li
15:10-15:20	AO21-8	**A systematic review and meta-analysis on the efficacy of telemedicine compared to face-to-face consultations in promoting CPAP compliance among OSA patients** **Brian Nelson Ong** (Philippines)*, Ryan Martin Denopol, Racquel Ibanez, Maria Cecilia Jocson

Oral 22 | 15:50-17:20 | Grand Ballroom 103 (1F)

Respiratory Infections (non-tuberculous) - NTM

Chair — **Jusang Kim** (The Catholic University of Korea College of Medicine, Republic of Korea)

15:50-16:00	AO22-1	**Risk factors for mortality and progressive disease of nontuberculous mycobacterial lung disease: a systematic review and meta-analysis** **Hyeontaek Hwang** (Republic of Korea)*, Jung-Kyu Lee, Eun Young Heo, Deog Kyeom Kim, Hyun Woo Lee
16:00-16:10	AO22-2	**Risk of Mycobacterium avium complex-lung disease and single nucleotide polymorphisms in programmed cell death-1 gene** **Sheng-Wei Pan** (Taiwan)*, Chin-Chung Shu, Jia-Yih Feng, Lawrence Shih-Hsin Wu, Jann-Yuan Wang, Wei-Juin Su, Yuh-Min Chen, Hao-Chien Wang, Chong-Jen Yu
16:10-16:20	AO22-3	**Spatial analysis and population genomics study of Mycobacterium kansasii in southern Taiwan** **Bo-Chen Liu** (Taiwan)*, Hung-Ling Huang, Po-Liang Lu, Inn-Wen Chong, Jann-Yuan Wang, Hsien-Ho Lin
16:20-16:30	AO22-4	**Another Step into the BACES: Validation of the Prognostic Score for Nontuberculous Mycobacterial Pulmonary Disease** **Hyung-Jun Kim** (Republic of Korea)*, Myung Jin Song, Byoung Soo Kwon, Yeon Wook Kim, Sung Yoon Lim, Yeon-Joo Lee, Jong Sun Park, Young-Jae Cho, Choon-Taek Lee, Jae Ho Lee
16:30-16:40	AO22-5	**Nomogram for Predicting Mortality in Patients with Mycobacterium avium Complex Pulmonary Disease** **Sol Kim** (Republic of Korea)*, Youngmok Park, Yoon Ho Noh, Young Ae Kang
16:40-16:50	AO22-6	**The clinical characteristics of Mycobacterium fortuitum pulmonary disease and the treatment outcomes** **Sae Rom Kim** (Republic of Korea)*, Byung Woo Jhun
16:50-17:00	AO22-7	**Effect of computed tomography-measured body composition on the prognosis of Mycobacterium avium complex pulmonary disease patients in Koreans.** **Eun Ki Chung** (Republic of Korea)*, Young Mok Park, Moo Suk Park, Young Sam Kim, Hye Jeong Lee, Young Ae Kang
17:00-17:10	AO22-8	**Mediastinal masses and collections in culture-positive melioidosis: 4-year review in northern Sabah, Borneo** **Larry Ellee Nyanti** (Malaysia)*, Amalina Abu Othman, Yen Lik Chia, Valerie Toh, Nur Siti Fatimah Mohamad Jamil, Hema Yamini Ramarmuty, Kunji Kannan, Sivaraman Kannan
17:10-17:20	AO22-9	**A study on the relationship of differenct comorbidities with morbid histopathological changes in COVID-19 patients using minimally invasive tissue sampling** **Animesh Ray** (India)*

Oral 23

15:50-17:20 | Grand Ballroom 105 (1F)

COPD

Chair — **Chong-Jen Yu** (Taiwan)

15:50-16:00	AO23-1	**Benefits of budesonide/glycopyrronium/formoterol fumarate dihydrate triple therapy versus dual therapies in patients with COPD and additional asthma features: post-hoc analysis of KRONOS and ETHOS** **Munehiro Seki** (Japan)*, Shigeo Muro, John R. Hurst, David Petullo, Patrick Darken, Ayman Megally, Mehul Patel
16:00-16:10	AO23-2	**Risk factors of disease progression in young patients with COPD** **Juye Bae** (Republic of Korea)*, Hyun Woo Lee, Kwang Yong Choi, Hyo-Jin Lee, Jung-Kyu Lee, Tae Yeon Park, Deog Kyeom Kim, Eun Young Heo
16:10-16:20	AO23-3	**Exercise performance on the prognosis of mild and moderate COPD** **Ji Won Park** (Republic of Korea)*, Joo Hun Park, Ji Eun Park, Kwang Ha Yoo, Ki-Suck Jung, Chin Kook Rhee

Oral 24

15:50-17:20 | ASEM Ballroom 202+203 (2F)

Bronchoscopy and Interventional Techniques

Chair — **Kyung Jong Lee** (Sungkyunkwan University School of Medicine, Republic of Korea)

15:50-16:00	AO24-1	**Safety and Efficacy of Transbronchial Lung CrYO Biopsy vs Forceps Biopsy in diagnosis of Fibrotic Lung Disease - "Biopsies and Beyond"** **Umang Shah** (India)*
16:00-16:10	AO24-2	**Cryobiopsy for peripheral pulmonary lesions using 1.1 mm cryoprobe and guide sheath without fluoroscopy** **Dongil Park** (Republic of Korea)*, Jeong Eun Lee, Chaeuk Chung, Da Hyun Kang
16:10-16:20	AO24-3	**Transbronchial biopsy by radial probe endobronchial ultrasound followed by cryobiopsy using a novel 1.1-mm diameter cryoprobe** **Jung Seop Eom** (Republic of Korea)*, Soo Han Kim, Jeongha Mok, Mi Hyun Kim, Eun Jong Jo, Kwangha Lee, Ki Uk Kim, Hye-Kyung Park, Min Ki Lee
16:20-16:30	AO24-4	**Thoracic Vent versus Conventional Intercostal Tube Drainage in Management of Pneumothorax in University Kebangsaan Malaysia Medical Centre (UKMMC): A Pilot Study** **Nik Nuratiqah Nik Abeed** (Malaysia)*, Azat Azrai Azmel, Andrea Yu-Lin Ban, Boon Hau Ng, Mas Fazlin Mohamad Jailaini, Syed Zulkifli Syed Zakaria, Mohamed Faisal Abdul Hamid
16:30-16:40	AO24-5	**The value of finer rigid medical thoracoscope in "APC-plus" for the treatment of primary spontaneous pneumothorax (PSP)** **Hua Zhang** (China (Mainland))*, Guangwei Xue, Zhongmei Sun, Wei Zhang, Weiwei Xu, Zongtao Liu, Changsheng Ge, Zhigang Zheng
16:40-16:50	AO24-6	**Endobronchial valves for emphysema and persistent air-leak: 9-year experience in one Asian Country** **Jin-Young Huh** (Republic of Korea)*, Byeong-Ho Jeong, Ho il Yoon, Hojoong Kim, Young-Jae Cho, Changhwan Kim, Seung Jun Lee, Hwan hee Kim, Seung Won Ra, Ye Jin Lee, Beong Ki Kim, Sung Kyoung Kim, Ki Hyun Seo, Sei Won Lee
16:50-17:00	AO24-7	**Feasibility and safety of pleural biopsy using rigid forceps in semi-rigid medical thoracoscopy** **Ganghee Chae** (Republic of Korea)*, Chuiyong Pak, Jin Hyoung Kim, Seung Won Ra, Yangjin Jegal, Kwang Won Seo, Jong Joon Ahn, Taehoon Lee
17:00-17:10	AO24-8	**Clinical outcomes of bronchoscopic cryotherapy for central airway obstruction in adults: 11-year experience of single center** **Jong Hwan Jeong** (Republic of Korea)*, Wonjun Ji, Chang-Min Choi
17:10-17:20	AO24-9	**Trends and an online survey on the use of rigid bronchoscopy in Korea: Too old style to be used recently?** **Byeong-Ho Jeong** (Republic of Korea)*, Sang Haak Lee, Hwan Hee Kim, Ho Il Yoon, Jung Seop Eom, Young Sik Park, Jaeyoung Cho, Taehoon Lee, Seung Joon Kim, Hyeong Jun Cho, Chan Kwon Park, Yousang Ko, Yong-Soo Kwon, Changhwan Kim, Wonjun Ji, Chang-Min Choi, Kihyun Seo, Hae-Seong Nam, Hojoong Kim

POSTER EXHIBITION

Poster Exhibition

Clinical Respiratory Medicine

AP01-37	**Plastic bronchitis presenting as incessant sputum expectoration: a case report** **Kriselle Felicia Lumunsad** (Philippines)*, Emily Aventura, Christine Chavez, Jay Andrew Ilagan, Noel Michael Supremo, Annaleene Michelle Ferrater-Alcober, Mirasol Aboga-Pacheco
AP01-38	**The interest of bronchoscopy in diagnosis of the patients with non-resolving pneumonia in Calmette Hospital, Phnom Penh, Cambodia** **Menghak Heng** (Cambodia)*, Bunpaul Chhar, Sarin Chan, Chanty Ny, Mich Vann
AP01-39	**Rapidly growing tracheal granulation causing tracheal obstruction: a case report** **Shun Takao** (Japan)*, Shoshi Akieda, Ren Seike, Jun Yano, Shohei Mishima, Yusuke Takayama, Takahiro Mimae, Hiroyasu Shoda, Yoichi Hamai, Kentaro Tamura, Yasuo Iwamoto, Yoshihiro Miyata
AP01-40	**An incidental finding of an endobronchial lesion.** **Wei Lien Rita Lai** (Singapore)*, Kim Hoong Yap, Wei Keong Alan Ng
AP01-41	**Bronchial mass in meningioma patient: A case report and review of literature** **Harik Firman Thahadian** (Indonesia)*, Nur Rahmi Ananda, Ika Trisnawati, Heni Retnowulan, Bambang Sigit Riyanto, Eko Budiono, Sumardi Sumardi
AP01-42	**Pulmonary edema after propofol infusion in the operative and postoperative periods** **Youngeun Jang** (Republic of Korea)*, Ki Up Kim, Bo Young Lee, Soo-taek Uh, Yang Ki Kim, So My Koo, Se Yoon Park, Bo-Da Nam, Young-Woo Park, June Young Jang
AP01-43	**Feasibility study of home-based Pulmonary Rehabilitation (PR) in Bangladesh** **GM Monsur Habib** (Bangladesh)*, Roberto Rabinovich, Nazim Uzzaman, Aftab Uddin, Hilary Pinnock
AP01-44	**Effectiveness of an outpatient pulmonary rehabilitation program in patients with chronic obstructive lung diseases; a pilot study** **Mohamed Rikas** (Sri Lanka)*, Chamoda Jayasinghe, Renuka Dasanayaka, Surangika Wadugodapitiya, Duminda Yasaratne
AP01-45	**Patient's perception of Pulmonary Rehabilitation in Bangladesh** **GM Monsur Habib** (Bangladesh)*, Roberto Rabinovich, Nazim Uzzaman, Aftab Uddin, Hilary Pinnock
AP01-46	**A Case of Necrotizing Sarcoidosis with Reversible Cognitive Disorder and Mimicking Cushing syndrome** **Yuka Nagae** (Japan)*, Saeko Nagai, Ayako Ito, Touhei Yamaguchi, Nobuhisa Yonemitsu, Koujirou Nakao, Kouichiro Takemoto, Yuji Sagara, Hiroaki Senju, Misato Adachi, Yoshifumi Soejima
AP01-47	**Guillain-Barre syndrome as a rare initial presentation of Antiphosphospholipid syndrome** **Nurgul Naurzvai** (Turkey)*, Nurdan Kokturk, Bijen Nazliel, Melda Turkoglu
AP01-48	**The Sleeping Giant Finally Awakens : Diagnostic and Therapeutic Dilemmas of A Large Solitary Fibrous Tumor of the Diaphragm** **Krista Mae Paulino** (Philippines)*, Christina Uy
AP01-49	**Low frame rate dynamic chest radiography as a tool for investigating diaphragm dysfunction** **Thomas Simon FitzMaurice** (United Kingdom)*, Caroline McCann, Ram Bedi, Dilip Nazareth, Martin Walshaw
AP01-50	**A lady with blistering skin rash and "Lungs on Fire"** **Niranjan Chandramal** (Sri Lanka)*, Asha Samaranayake, Buddhika Alahakoon, Ananda Jayanaga, Harindra Karunathilaka, Ravini Karunathilaka
AP01-51	**The impact of colony morphotype on clinical courses of patients with Mycobacterium avium complex pulmonary disease** **Jihoo Lee** (Republic of Korea)*, Jaejoon Yim, Nakwon Kwak, Hyeryung Oh, Jeonseong Yan, Jake Whang
AP01-52	**Understanding the implementation of PR in Bangladesh using Normalization Process Theory** **GM Monsur Habib** (Bangladesh)*, Roberto Rabinovich, Nazim Uzzaman, Aftab Uddin, Hilary Pinnock
AP01-53	**Can we combine advances in evidence based medicine and behavioural economics strategies to improve diagnosis in respiratory medicine?** **Tow Keang Lim** (Singapore)*, Chia Meng Teoh, Mei Ying Chew, Jeff Ng
AP01-54	**Clinical outcome and patient characteristics of community acquired pneumonia in a secondary care hospital in central Sri Lanka; are severity indexes and scores universally applicable?** **Sanjaya Sumanasinghe** (Sri Lanka)*, Hasitha Dissanayake, Thilina Munasinghe, Kokilaa Wijerathne, Sumedha Samankantha
AP01-55	**Impacts of clinical training on experience and knowledge of respiratory diseases among post-graduate year (PGY) 1 and 2 residents.** **Yoko hamakawa** (Japan)*, Satoshi Marumo, Ryo Yamanaka, Hiromitsu Ueki, Ryota Kishi, Yuta Sakano, Hirotaka Tamesada, Shiori Jinnno, Chie Morimoto, Takamitsu Imoto, Takamasa Kitajima, Daiki Inoue, Motonari Fukui
AP01-56	**MALT Lymphoma Masquerading as Organizing Pneumonia as the First Manifestation** **Mohd Zhafran Zainal Abidin** (Malaysia)*, Hui Xin Tan, Yen Shen Wong, Affida Ahmad, Aisya Natasya Musa, Mohd Arif Mohd Zim
AP01-57	**Clinical audit on Discharge Summary Post-Non invasive ventilation** **Dawpadee Dharmasena** (United Kingdom)*, Sanka Vijayabandara, Osei Kankam, Theresa Christopherson
AP01-58	**Oxygenation Parameters as Predictors of Clinical Outcomes among Non-oxygenated Hospitalized Adult Patients with Moderate Covid-19 Infection** **Eliezer James Aguila** (Philippines)*, Trinidad Tim
AP01-59	**Recurrent spontaneous pneumomediastinum in adolescents: a rare case in healthy adolescents with an infrequently reported entity.** **Wutthichai Sae Chen** (Thailand)*, Virissorn Wongsrichanalai
AP01-60	**Compliance of non-invasive ventilation among patients with myotonic dystrophy complicated with type 2 respiratory failure** **Sugeesha Wickramasinghe** (United Kingdom)*, Verity Ford, Emily Nuttall

AP01-61	**Comparing current treatment practice in patients with bronchiectasis in tertiary respiratory care setting with standard international guidelines - An audit**
	Sugeesha Wickramasinghe (Sri Lanka)*, Saman Kularatne
AP01-62	**Outcome of telepharmacy service in asthma and COPD clinic in Thailand.**
	Sirin Phenphinan (Thailand)*, Watchara Boonsawat, Sunee Lertsinudom
AP01-64	**High Flow Nasal Cannula in Hypoxemic Patients with COVID-19 in Philippine Heart Center: a cross-sectional study**
	Kristine Gail Sy (Philippines)*, Ma. Encarnita Limpin
AP01-65	**Diffuse Alveolar Hemorrhage After an Ovum Pick-Up Procedure Induced by Inhalational Sevoflurane - A case report**
	Hye Sung Khil (Republic of Korea)*, Sue In Choi, Byung Keun Kim, Won jai Jung, Eun Joo Lee, Sang Yeub Lee
AP01-66	**Pulmonary rehabilitation in the time of pandemic: outcomes of online pulmonary rehabilitation in a tertiary institution.**
	Rachelle Mae Legaspi (Philippines)*, Camille San Miguel, Guinevere Dy-Agra, Rodolfo Pagcatipunan, Celeste Mae Campomanes, Kurt Tolentino, Matthew Lee
AP01-718	**Case report and literature review of Plastic bronchitis characcterized by refractory hemoptysis.**
	Yan Gu (China (Mainland))*, Wanting Zhang

Cell and Molecular Biology

AP02-75	**Comparison of the phenotype of united airway disease between fungus-induced severe allergic lung inflammation and respiratory SARS-CoV-2 infection in mice**
	Yeogha Yoon (Republic of Korea)*, Wankyu Kim, Hae Jin Park, Kyung Hwa Park, So Ri Kim, Yeong Hun Choe, Jae Seok Jeong, Yong Chul Lee
AP02-76	**Patient-derived lung organoid on a chip platform as a new alternative method for pulmonary disease modeling and drug discovery**
	Seo-Hee Yang (Republic of Korea)*, Eun-Young Eo, Ji-Yeon Park, Hyung-Jun Kim, Young-Jae Cho

Clinical Allergy & Immunology

AP03-79	**Effect of supplement vitamin C on IL-6 (interleukin 6) and IL-10 (interleukin 10) level health care worker in dr. soetomo academic hospital in COVID-19 pandemic**
	Nisya Hapsari (Indonesia)*, Laksmi Wulandari
AP03-80	**The impact of one-year treatment with dupilumab in patients with severe asthma**
	Sumiko Abe (Japan)*, Norihiro Harada, Yuuki Sandhu, Hitoshi Sasano, Yuuki Tanabe, Sonoko Harada, Ai Goto, Takayasu Watanabe, Yoshihiko Sato, Takayasu Nishimaki, Yukari Kato, Shoko Ueda, Tomohito Takeshige, Jun Ito, Ryo Atsuta, Kazuhisa Takahashi
AP03-81	**The role of IL-1 β and IL-10 as a predictive factors for COVID-19 severity**
	Sakina Sakina (Indonesia)*, Resti Yudhawati
AP03-82	**NLRP3 inflammasome is critically implicated in SARS-CoV-2-induced aggravation of severe asthma in mice**
	Jae Seok Jeong (Republic of Korea)*, Hae Jin Park, Kyung Hwa Park, Hee Jung Kim, Yeong Hun Choe, So Ri Kim

AP03-83	**Aero allergen sensitivity pattern in patients with Allergic Rhinitis and Asthma in Southern India**
	Manimaran Marappan (India)*
AP03-84	**Lungs and kidneys tying the knot in the era of covid pandemic**
	Madhushi Nanayakkara (Sri Lanka)*, Chandana Dahanayaka, Ayesha Jayawardana, Malinda Hettiarachchi, Dinith Galabada, Eshanth Perera
AP03-85	**Qualitative serologic antibody response using lateral flow immunoassay (Rapid IgG/IgM Diagnostic Test) in the different illness severity of COVID-19 Pneumonia**
	Mark Christian Agase (Philippines)*, Ma. Encarnita Limpin, Emily Aventura
AP03-86	**CD2 shown to facilitate CD4+ cell differentiation in Visceral Leishmaniasis patients, a receptor based study**
	Sukrat Sinha (India)*

Environmental and Occupational Health and Epidemiology

AP04-100	**A case of humidifier lung diagnosed after repeated admission**
	Seoung Ju Park (Republic of Korea)*, Hwan Jin Lee, Yeong Hun Choe, Heung Bum Lee
AP04-101	**Effect of fine dust on lung disease**
	Yejin Lee (Republic of Korea)*
AP04-102	**Progressive Massive Fibrosis, a case of diagnostic dilemma.**
	Madhushi Nanayakkara (Sri Lanka)*, Chandana Dahanayaka, Ayesha Jayawardana, Praveen Sumithrarachchi, Malinda Hettiarachchi, Ramani Punchihewa, Sumudu Palihawadana, Eshanth Perera
AP04-103	**Can a Web-App based physical activity promotion program improve cardiovascular symptoms of midlife women?**
	Wonshik Chee (United States of America)*, Eun-Ok Im
AP04-104	**A Retrospective Cohort Study on the Outcomes of Participants of the DOH-LCP Quitline Program from 2017-2020**
	Marra Monique Cantela (Philippines)*, Glynna Cabrera
AP04-105	**Toxicity evaluation of environmental pollutant using human small airway epithelial cells (SAEC) cultured under the air-liquid interface (ALI)**
	Sun Young Kyung (Republic of Korea)*, Eun Suk Son, Se-Hee Kim, Young Eun Lee, Jeong-Woong Park, Sung Hwan Jeong
AP04-106	**Various daily health practices to reduce particulate matter in vulnerable and susceptible individuals**
	Hyun Woo Ji (Republic of Korea)*, Dae Ryoung Kang, Yong Jin Lee, Jin-Bae Kim, Yeong-Bae Lee, Changsoo Kim, Jaelim Cho, Mi-Ji Kim, Jungwoo Sohn, Ji Ye Jung
AP04-107	**Gene expression changes in lung induced by subacute inhalation of PM10-rich particulate matter in mice**
	Sung-Woo Park (Republic of Korea)*, Jisu Hong, Jong-Uk Lee, Hyesun Shin, Su Sie Chin, Ki-Joon Jeon, Sung Hwan Jeong

AP04-108	**Characteristics and advantages of silicosis utilized a murine model**
	Hyosin Baek (Republic of Korea)*, Se-Ran Yang, Jooyeon Lee, Jaehyun Park, Jimin Jang, Sang-Ryul Cha, Sebi Lee
AP04-109	**Long-term air pollution exposure are associated with PRISm and chronic respiratory symptoms: Predictive Value of Inflammatory Biomarkers and FEV1 for COPD (PIFCOPD) Study**
	Shanshan Wei (China (Mainland))*, Jiping Liao, Tao Xue, Xiuhua FU, Ruiying Wang, Xiaomin Dang, Cheng Zhang, Hua Qiao, Shujuan Jiang, Jianhong Xiao, Lixia Dong, Jinzhi Yin, Xixin Yan, Weihua Jia, Guifang Zhang, Rui Chen, Bo Zhou, Beibei Song, Jing Li, Mengyu Yin
AP04-110	**Anti-fibrotic effect of dipeptide A during progression of chronic fibrosis**
	Jaehyun Park (Republic of Korea)*, Jooyeon Lee, Hyosin Baek, Jimin Jang, Sang-Ryul Cha, Se Bi Lee, Se-Ran Yang
AP04-111	**Associations between particulate matter and COPD-related genes using RNA-sequencing analysis**
	Jeeyoung Kim (Republic of Korea)*, Hawon Song, Sun Shim Choi, Chang-Hoon Lee, Chang Hyun Lee, Woo Jin Kim

Respiratory Infections (non-tuberculous)

AP05-180	**Deep learning-based chest radiograph severity score and its change predict all-cause mortality of patients with Mycobacterium avium complex pulmonary disease**
	Joong-Yub Kim (Republic of Korea)*, Hyun Woo Lee, Hyung-Jun Kim, Jae Ho Lee, Jae-Joon Yim, Nakwon Kwak, Soon Ho Yoon
AP05-181	**Characteristics of patients with idiopathic bronchiectasis in South Korea**
	Seo-Young Hwang (Republic of Korea)*, Yeon-Mok Oh
AP05-182	**Analysis of influencing factors for quality of life in patients with bronchiectasis based on clinical research**
	Feng Song (China (Mainland))*, Yan Wang, Zile Ji, Baichuan Xu, Peng Zhang, Yang Xie
AP05-183	**Correlation between lactate dehydrogenase and severity clinical degree of COVID-19 patients**
	Halina Julia (Indonesia)*, Fajrinur Syarani, Muntasir Abdullah, Putri Chairani Eyanoer, Ranti Permatasari
AP05-184	**Clinical Features of SGTF-infected Patients of SARS-CoV-2**
	Triya Damayanti (Indonesia)*, Siti Aliyah Said Utriyani, Nurindah Saloka Trisnaningrum, Primadea Kharismarini, Azlina Darsaniya Wandawa, Mohamad Rizki, Budi Haryanto, Aisyah Aminy Maulidina, Erlina Burhan
AP05-185	**Detection of Mycobacterium avium-intracellulare complex by bronchial lavage culture and the relation with titers of anti-glycopeptidolipid-core IgA antibodies in the sera of the patients**
	Masafumi Seki (Japan)*, Daishi Shimada
AP05-186	**The duration of acute empyema affects intraoperative/postoperative course**
	Yuki Yagi (Japan)*, Hiromitsu Domen, Yuta Toji, Mariko Hayashi, Hironobu Takano, Kazuomi Ichinokawa, Yachiyo Iwamura, Hidehisa Yamada
AP05-187	**A descriptive cross-sectional study on prevalence of respiratory diseases among patients visiting Jiri District Hospital, Nepal.**
	Kiran Paudel (Nepal)*, Durga Rijal, Tara Ballav Adhikari, Sandesh Bhusal, Rajan Paudel, Bikram Paudel, Milan Gaihre, Surya Devkota
AP05-188	**Esophagopleural fistula due to foreign body leads to a persistent left sided pyopneumothorax: a rare case**
	Katerine Junaidi (Indonesia)*, Russilawati Russilawati, Oea Khairsyaf, Deddy Herman, Afriani Afriani
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AP12-613	**A Novel Technique For Tracheoesophageal Fistula Closure**
	Don Gregory Mascarenhas (India)*, Harikishan Gonuguntla, Roshan kumar Manoharlal, Nootangi Bhanuteja, Medhat Nabih Elnamaky
AP12-614	**Interventional bronchoscopy for stent placement by rigid brochoscopy through tracheostomy. A case reports**
	Anh Duc Hoang (Viet Nam)*, Van Giap Vu, Ngoc Du Nguyen, Ngoc Phu Dao
AP12-615	**Balloon Bronchoplasty under conscious sedation and flexible bronchoscope: A feasible approach from initial experience of Malaysia**
	Arvindran Alaga (Malaysia)*, Nurul Adilah Ahmad Nizam, Izzatul Nadzirah Ismail
AP12-616	**Endobronchial removal of the peripherally located foreign body with the ultrathin bronchoscopy and ultrathin cryoprobe guided by a manual navigating method**
	Mingli Yuan (China (Mainland))*, Yang Xiao, Fang Ni, Wen Yin, Yi Hu

AP12-617	**Efficacy and safety of the transbronchial lung cryobiopsy: a single-center retrospective study in Japan.**
	Yuichi Nagata (Japan)*, Tetsutaro Nagaoka, Yumi Kuroda, Saori Hotta, Tomoko Okuma, Koichi Masuda, Naho Sakamoto, Takayasu Nishimaki, Kana Kurokawa, Taichi Miyawaki, Tetsuhiko Asao, Ryota Kanemaru, Tomoyasu Mimori, Sachiko Kuriyama, Yoichiro Mitsuishi, Masako Ichikawa, Naoko Shimada, Takuo Hayashi, Kazuhisa Takahashi
AP12-618	**The diagnostic yield of transbronchial lung biopsy (TBLB) using both radial endobronchial ultrasound (radial EBUS) and fluoroscopy in peripheral small lung nodule below 20mm.**
	Eun Young Kim (Republic of Korea)*, Seung Hyun Yong
AP12-619	**Tracheopathia osteochondroplastica - to biopsy or not to biopsy? A relook at the rare disease**
	Avinash Anil Nair (India)*, Richa Gupta, Aparna Irodi, Ashwin Oliver, Divya Chandran, Prince James
AP12-620	**Effects of patient-selected music and breathing control during bronchoscopy**
	Napplika Kongpolprom (Thailand)*, Chayanon Vividhwara, Supinya Sukjit, Paphawee Chiarakiat, Patcharee Chawthanasit, Supawich Sornwanee, Nattaporn Sritippayawan
AP12-621	**Feasibility and safety of electromagnetic navigation transthoracic needle aspiration under moderate sedation for the diagnosis of pulmonary nodules**
	So Jeong Kim (Republic of Korea)*, Na Young Kim, Soojie Chung, Jeong Hee Choi, In Gyu Hyun, Hee-Sung Lee
AP12-622	**Intrapleural Streptokinase and DNase: A cheaper alternative?**
	Hema Yamini Ramarmuty (Malaysia)*, Sarvin Vignesh, Shan Min Lo, Kannan Sivaraman Kannan
AP12-623	**Effects of patient-selected music and deep meditation music during bronchoscopy**
	Napplika Kongpolprom (Thailand)*, Chayanon Vividhwara, Supinya Sukjit, Paphawee Chiarakiat, Patcharee Chawthanasit, Supawich Sornwanee, Nattaporn Sritippayawan
AP12-624	**Study on the application of hybrid operation "one stapler plus one needle" to reduce the volume of giant emphysematous bulla**
	Hua Zhang (China (Mainland))*, Wei Zhang, Guangwei Xue, Weiwei Xu, Changsheng Ge, Zhigang Zheng, Zongfang Li, Lei Wang, Jinming Yang, Jieliang Zhang, Renyan Zhao
AP12-625	**Transbronchial lung cryobiopsy for diffuse and localized peripheral pulmonary lesions: A retrospective review of our early experience**
	Chun Ian Soo (Malaysia)*, Boon Hau Ng, Mona Zaria Nasaruddin, Ummi Nadira Daut, Noorul Afidza Muhammad, Khai Lip Ng, Nur Husna Mohd Aminudin, Nai Chen Huan, Fatimah Azmah Mohammad, Sanusi Zulkifli, Hean Fui Liow, Muhammad Asyraf Abdul Onny, Andrea Yu-Lin Ban, Jamalul Azizi Abdul R
AP12-626	**Ultrasound Guided Transthoracic Needle Biopsy : A Pulmonologist Perspective**
	Haly Rozie Ahmad (Malaysia)*, Nagarani Naupa, Yu Kuan Tan, Megat Razeem Abdul Razak, Aishah Ibrahim, Soon Hin How
AP12-627	**Clinical outcomes of cryobiopsy for peripheral pulmonary lesions - a prospective pilot study**
	Soo Han Kim (Republic of Korea)*, Jeongha Mok, Jung Seop Eom
AP12-628	**Virtual bronchoscopy navigation combined with thin bronchoscope to diagnose pulmonary tuberculosis: A randomised trial**
	Jeongha Mok (Republic of Korea)*, Jung Seop Eom, Seyeon Park
AP12-629	**Utility of endobronchial ultrasound guided re-biopsy of non-small cell lung cancer with acquired resistance after EGFR tyrosine kinase inhibitor**
	Jin Mo Cho (Republic of Korea)*, Kyung Soo Hong, Kwan Ho Lee, Jin Hong Chung, Kyeong Cheol Shin, Eun Young Choi, Hyun Jung Jin, Jong Geol Jang, June Hong Ahn
Paediatric Lung Disease	
AP13-630	**A case report of an infant with congenital lobar emphysema at Angkor Hospital for Children**
	Khe Muoy Um (Cambodia)*, Michael Wall, Sokchinda Kong, Pises Nget, Chanpeaktra Ngoun
AP13-631	**LEGA-Kid Efficacy and Safety in Children with Pneumonia**
	Nur Izyani Abdul Halim (Malaysia)*, Asiah Kassim, Syuhadah Abd Rahman, Nur Haziqah Mohamed Hizam, Sornaletchumi Koran, Sahrinah Mohd Shahardin, Karuthan Chinna, Jia Yueh Chong, Shangari Kunaseelan, Pazlida Pauzi, Udhaya Moorthy, Nanthini Mahalingam, N. Fafwati Faridatul Akmar Mohamed, Radhiyah Abdul Rashid, Hishamshah Mohd Ibrahim
AP13-632	**Lung metastatic of rhabmyosarcoma: report a case with delayed diagnosis of primary tumor due to COVID – 19**
	Tuan Anh Tran Thi (Viet Nam)*, Thanh Tuan Phan, Trung Tho Le
AP13-633	**Multiple rib destructions as an extremely rare complication of Kasabach-Merritt syndrome in a-2-years old female child: A case report**
	Citra Cesilia (Indonesia)*, Elmi Ridar, Hariadi Hatta, Andreas Makmur, Wiwit Ade Fw, Heda Melinda N Nataprawira
Respiratory Structure and Function	
AP14-642	**Bleomycin-induced fibrosis and the effectiveness of cantella asiatica as treatment**
	Yabestin Alfrianus Pakpahan (Indonesia)*, Noni Novisari Soeroso, Muhammad Ichwan
AP14-643	**Multi-data-integrated pulmonary function test reports in COPD patients**
	So Yeon Kim (Republic of Korea)*, Yong Sik Park
AP14-644	**The airway occlusion pressure (P0.1) after COVID-19**
	Olga Savushkina (Russia)*, Alexander Cherniak
AP14-645	**Dynamic chest radiography as a rapid tool to assess thoracic dynamics following diaphragm plication surgery**
	Thomas Simon FitzMaurice (United Kingdom)*, Caroline McCann, Ram Bedi, Dilip Nazareth, James Greenwood, Martin Walshaw
Pulmonary Circulation	
AP15-650	**A rare case of pulmonary arterio venous malformation.**
	Madhushi Nanayakkara (Sri Lanka)*, Chandana Dahanayaka, Ayesha Jayawardana, Pradeep Wijerathna, Malinda Hettiarachchi, Chandrike Ponnamperuma, Dhammika Rasnayake, Eshanth Perera
AP15-651	**Rare cause of pulmonary hypertension**
	Lakmini Dassanayake (Sri Lanka)*, Amitha Fernando, Ruwanthi Jayasekara, Madushanka Rathnayake, Ruwani Perera

AP15-652	**Pulmonary Arteriovenous Malformation as a Cause of Embolic Stroke**
	Boon Hau Ng (Malaysia)*, Hsueh Jing Low, Andrea Yu-Lin Ban, Nik Nuratiqah Nik Abeed, Mohamed Faisal Abdul Hamid, Prapatricca Shanmugam, Isa Azzaki Zainal
AP15-653	**A case of definite hereditary hemorrhagic telangiectasia presenting as a refractory migraine**
	Madushanka Rathnayake (Sri Lanka)*, Lakmini Dassanayake, Ruvanthi Jayasekara, Amitha Fernando, BMP Bandaranayake
AP15-654	**Multimodalities in treating intermediate-high risk pulmonary embolism**
	Muhammad Amin Ibrahim (Malaysia)*, Nadirah Abdul Wahid, Wong Soo Fen
AP15-655	**Long-term results of surgical and medical treatment of pulmonary embolism**
	Eugene Borodin (Russia)*, Anton Kazantsev, Alexander Korotkikh, Alina Zharova, Roman Lider, Elizaveta Kazantseva
Interstitial Lung Disease	
AP16-688	**Rapidly progressive interstitial lung disease associated with anti-NXP2 antibody**
	Nataphon Wuthithepbuncha (Thailand)*, Viboon Boonsarngsuk, Jakkrit Laikitmongkhon, Pimpin Incharoen, Warawut Sukkasem
AP16-689	**Efficacy of Low-Dose Nintedanib in Idiopathic Pulmonary Fibrosis, a retrospective single institute analysis.**
	Natsumi Watanabe (Japan)*, Yoshinori Tanino, Takefumi Nikaido, Yuki Sato, Ryuichi Togawa, Takaya Kawamaya, Naoko Fukuhara, Tomoyoshi Lee, Riko Sato, Takumi Onuma, Mikako Saito, Hikaru Tomita, Mami Rikimaru, Julia Morimoto, Yasuhito Suzuki, Hiroyuki Minemura, Junpei Saito, Kenya Kanazawa, Yoko Shibata
AP16-690	**The Impact of MDT meetings and addition of Clinical Pathway on diagnosis and cost analysis in DPLD patients from two tertiary centers in Klang Valley.**
	Giritharan Muniandy (Malaysia)*, Andrea Ban, Faisal Abdul Hamid, Boon Hau Ng, Nik Nuratiqah Nik Abeed, Syazatul Syakirin Sirol Aflah, Aniza Ismail, Shahrir Mohamed Said, Imree Azmi, Zuhanis Abdul Hamid
AP16-691	**Double whammy: a case of post severe COVID pneumonia - anti mda 5 associated interstitial lung disease**
	Wang Jie Tan (Malaysia)*, Noorul Afidza, Mona Zaria, Chiou Perng Lee, Jamalul Azizi
AP16-692	**Organizing pneumonia in patients who are in post COVID state or develop late onset symptoms of COVID-19**
	Chang-Seok Yoon (Republic of Korea)*, Jae-Kyeong Lee, Young-Ok Na, Hwa Kyung Park, Bo Gun Kho, Ha Young Park, Tae-Ok Kim, Hong-Joon Shin, Yong-Soo Kwon, Yu-Il Kim, Sung-Chul Lim
AP16-693	**Rare case of acute exacerbations of post COVID-19 interstitial lung disease**
	Lakmini Dassanayake (Sri Lanka)*, Amitha Fernando, Ruwanthi Jayasekara, Madushanka Rathnayake
AP16-694	**Sarcoidosis associated pulmonary artery stenosis and pulmonary hypertension - A Challenging case**
	Arthihai Srirangan (Sri Lanka)*, Niranjan Chandramal, Asha Samaranayake, Ravini Karunathilaka

AP16-695	**Assessment of disease severity of diffuse parenchymal lung disease (DPLD) patients by 6-minute walk test (6MWT)**
	Mamun Newaz (Bangladesh)*, Mohammad Mohiuddin Ahmad, Mohammad Aminul Islam, Hena Khatun, Mohammad Tuhiduzzaman, Anal Chandra Das, Sharmin Afroze, Sharmin Sultana
AP16-696	**Are blood vessels a target organ for sarcoidosis?**
	Evgeniy Shchepikhin (Russia)*, Evgeniy Shmelev, Anna Zaitseva
AP16-697	**Peripheral blood monocyte count as a prognostic biomarker in idiopathic interstitial pneumonia other than idiopathic pulmonary fibrosis**
	Yuki Sato (Japan)*, Yoshinori Tanino, Takefumi Nikaido, Ryuichi Togawa, Takaya Kawamata, Natsumi Watanabe, Naoko Fukuhara, Tomoyoshi Lee, Riko Sato, Takumi Onuma, Hikaru Tomita, Mikako Saito, Mami Rikimaru, Julia Morimoto, Yasuhito Suzuki, Hiroyuki Minemura, Junpei Saito, Kenya Kanazawa, Yoko Shibata
AP16-698	**VISTA is a novel diagnostic and prognostic biomarker in idiopathic pulmonary fibrosis**
	Hee-Young Yoon (Republic of Korea)*, Ganghee Chae, Sang Eun Lee, Su-jin Moon, Jin Woo Song
AP16-699	**Plasma adiokines predict diagnosis and prognosis in patients with idiopathic pulmonary fibrosis**
	Ju Hyun Oh (Republic of Korea)*, Ganghee Chae, Su-Jin Moon, Jin Woo Song
AP16-700	**The Efficacy of Pulmonary Rehabilitation in Patients with Idiopathic pulmonary fibrosis**
	Ji Hoon Jang (Republic of Korea)*, Hee Eun Choi, Jae Ha Lee
AP16-701	**Birt-Hogg-Dub Syndrome in Korean family with a Novel Folliculin Gene Mutation**
	Yon Ju Ryu (Republic Of Korea)*, Jiyeon Bae
AP16-702	**Usefulness of software-based quantification for a computed tomography image analysis in patients with combined pulmonary fibrosis and emphysema**
	Yoshiaki Kitaguchi (Japan)*, Takumi Kinjo, Yusuke Suzuki, Norihiko Goto, Masamichi Komatsu, Fumika Ueno, Yosuke Wada, Masanori Yasuo, Hiroshi Yamamoto, Kiyoyasu Fukushima, Masayuki Hanaoka
AP16-703	**Benefits of Systemic Corticosteroid in Post-COVID-19 Interstitial Lung Disease.**
	Yun Seok Kim (Republic of Korea)*, Tai Joon An, Ye Jin Lee, Ji Eun Park, Eung Gu Lee, Youlim Kim, Sung-Yoon Kang, Hyonsoo Joo, Joon Young Choi
AP16-704	**Broncho-obstructive syndrome (BOS) in patients with different forms of hypersensitivity pneumonitis (HP).**
	Galina Kuklina (Russia)*, Evgeny Shmelev
AP16-705	**Single time point scores for predicting 1-year progression and 5-year overall survival in idiopathic pulmonary fibrosis: A validation study of Imaging Signature IPF (IS-IPF)**
	Kyungjong Lee (Republic of Korea)*, Ju Hyun Oh, S. Samuel Weight, Jonathan Goldin, Bianca Villages, Jin Woo Song, Grace Hyun J. Kim
AP16-706	**RNA-recognizing immune sensor regulates bleomycin-induced activation of macrophages, lymphocytes, and neutrophils and subsequent lung fibrosis**
	Takashi Ishii (Japan)*, Yusuke Murakami, Tomoya Narita, Takahide Nagase, Naomi Yamashita

AP16-707	**The analysis of the effect of statin therapy on the clinical course of IPF**
	Seung Hoon Kim (Republic of Korea)*, Shin Young Kim, So Hyang Song, Chi Hong Kim, Sung Kyoung Kim
AP16-708	**Obstructive Sleep Apnea in Patients with Idiopathic pulmonary fibrosis: Prevalence and Predictive Factors**
	Ji Hoon Jang (Republic of Korea)*, Hyun Kuk Kim, Jae Ha Lee
AP16-709	**Importance of clinical history of antigen exposure and anti-Trichosporon asahii antibody evaluation for diagnosis of summer-type hypersensitivity pneumonitis in patients with chronic interstitial lung diseases**
	Takaya Kawamata (Japan)*, Yoshinori Tanino, Takefumi Nikaido, Yuki Sato, Ryuichi Togawa, Natsumi Watanabe, Naoko Fukuhara, Tomoyoshi Lee, Riko Sato, Takumi Onuma, Hikaru Tomita, Mikako Saito, Mami Rikimaru, Yasuhito Suzuki, Hiroyuki Minemura, Junpei Saito, Kenya Kanazawa, Yoko Shibata
AP16-710	**Clinical significance of vitamin D deficiency in lung transplant recipients**
	Min Seo Ki (Republic of Korea)*, Ala Woo, Song Yee Kim, Moo Suk Park, Young Sam Kim, Ha Eun Kim, Jin Gu Lee, Hyo Chae Paik
AP16-711	**Polymyxin-B hemoperfusion in patients with acute exacerbation of idiopathic pulmonary fibrosis; A single center prospective pilot study**
	Min Jee Kim (Republic of Korea)*, Jiyoul Yang, Jin Woo Song
AP16-712	**COVID-19 vaccine-related pneumonitis in Korea**
	Ji Young Park (Republic of Korea)*, Joo-Hee Kim, Sunghoon Park, Yong Il Hwang, Hwan Il Kim, Ki-Suck Jung, Seung Hun Jang
AP16-713	**Oleanolic acid acetate alleviates bleomycin-induced pulmonary fibrosis in mice**
	Jae-Wan Jung (Republic of Korea)*, Ki-Eun Hwang, Chul Park, Hyun Lim, Joo-Un Park, Ui-Ri An, Hak-Ryul Kim
AP16-714	**Evaluation of fibrocytes in silica-induced and bleomycin-induced pulmonary fibrosis model in mice by single cell RNA-seq analysis**
	Kazuya Koyama (Japan)*, Seidai Sato, Hiroshi Kawano, Atsushi Mitsuhashi, Kojin Murakami, Yuya Yamashita, Keiko Haji, Kozo Kagawa, Hirohisa Ogawa, Yasuhiko Nishioka
AP16-715	**New prognostic scoring system for mortality in idiopathic pulmonary fibrosis modifying the GAP model with desaturation during six-minute walk test**
	Jae Ha Lee (Republic of Korea)*, Ji Hoon Jang, Moo Suk Park
AP16-716	**Longitudinal evaluation of patients with lymphangioleiomyomatosis with lower level of serum VEGF-D.**
	Masaki Hirose (Japan)*, Toru Arai, Takayuki Takimoto, Yoshikazu Inoue
AP16-717	**Pulmonary fibrosis in critically ill patients with COVID-19: prevalence and outcome : A multicentre retrospective cohort study in South Korea**
	Dae Hong Cho (Republic of Korea)*, Ganghee Chae, Junghyun Kim, Joon-Sung Joh, Tae Yun Park, Ae-Rin Baek, Won-Young Kim, Yang Jin Jegal, Chi Ryang Chung, Jinwoo Lee, Joo Hun Park, Jae Wook Lee, Soyeoun Lim, Jin Woo Song

ORAL PRESENTATION

20 November

Oral 25 | 09:20-10:50 | Grand Ballroom 104 (1F)

Clinical Respiratory Medicine

Chair: **Sung Yoon Lim** (Seoul National University College of Medicine, Republic of Korea)

09:20-09:30	AO25-1	**Risk factors for hospitalized bronchiectasis exacerbation based on blood eosinophil level at stable state and incorporation of phenotype into FACED score**
		Wang Chun Kwok (Hong Kong)*, James Chung Man Ho, Ting Fung Ma, David CL Lam, Johnny Wai Man Chan, Mary Sau Man Ip, Terence Chi Chun Tam
09:30-09:40	AO25-2	**The association between changes in BMI and acute exacerbation in non-CF bronchiectasis**
		Hyeon Kyeong Bae (Republic of Korea)*, Hyun Lee, Hayoung Choi, Yun Su Sim, Shinhee Park, Woo Jin Kim, Kwang Ha Yoo, Seung Jun Lee, Tae-Hyung Kim, Bumhee Yang, Ina Jeong, Soo-Jung Um, Deog Kyeom Kim, Ji-Hyun Lee, Byoung Soo Kwon, Young-Jae Cho, Hye Yun Park, Chang-Hoon Lee, Chin Kook Rhee, Ji Ye Jung
09:40-09:50	AO25-3	**Predictors of mortality in COVID-19 associated pneumothorax/pneumomediastinum patients without a history of invasive mechanical ventilation: the CoBiF score**
		Wongi Woo (Republic of Korea)*, Vincent Kipkorir, Du-young Kang, Adina Marza, Alessandro Belletti, Shadi Hamouri, Abdulqadir Nashwan, Giuseppe Fiorentino, Muhammad Mohsin Khan, Ayat Alhakeem, Sarya Swed, Moezedin Javad Rafiee, Wooshik Kim, Duk Hwan Moon, Jae Il Shin, Sungsoo Lee
09:50-10:00	AO25-4	**A national survey of non-invasive respiratory management in COVID-19 patients with acute respiratory failure using COVIREGI-JP database**
		Kazuko Yamamoto (Japan)*, Keisuke Tomii, Motoya Izumi, Naoyuki Akiyama, Nobuyuki Ashizawa, Naoki Iwanaga, Takahiro Takazono, Shinnosuke Takemoto, Hiroshi Ishimoto, Noriho Sakamoto, Yasushi Obase, Masato Tashiro, Takeshi Tanaka, Momoko Yamauchi, Naoki Hosogaya, Koichi Izumikawa, Katsunori Yanagihara, Hiroshi Mukae
10:00-10:10	AO25-5	**Effect of Intravenous N-acetylcysteine on Prevention of Mechanical Ventilation and Mortality among COVID-19 Patients: A Meta-Analysis**
		Karen Anne Claridad (Philippines)*, Roland Reuben Angeles, Lenora Fernandez
10:10-10:20	AO25-6	**Assessment of Dysfunctional Breathing in a cohort of post covid patients and the impact of Breathing Retraining Physiotherapy**
		Ruwanthi Jayasekara (Sri Lanka)*, Suresh Chathurantha, Amitha Fernando
10:20-10:30	AO25-7	**SUPER to Characterize Pleural Effusion**
		Astrid Gardiner (Singapore)*, Ryan Ling, Zhaojin Chen, Yiong-Huak Chan, Pyng Lee

Oral 26	09:20-10:50	Grand Ballroom 105 (1F)
Paediatric Lung Disease		
Chair	**Anne Chang** (Menzies School of Health Research, Queensland University of Technology, Australia)	
09:20-09:30	AO26-1	**The effect of the coronavirus disease (COVID-19) pandemic on hospital admissions among children due to the respiratory illnesses and the respiratory pathogens.** **Sze Chiang Lui** (Malaysia)*, Fauziah Ripin, Nor Diyana Ismail, N Fafwati Faridatul Akmar Mohammad, Yi Cheau Chua, Hazilawati Hussein, Maria Kamal, Sabeera Begum Kader Ibrahim, Asiah Kassim
09:30-09:40	AO26-2	**Pulmonary function and complications in children who have received hematopoietic stem cell transplantation** **Panuwat Srichaisawat** (Thailand)*, Jitladda Deerojanawong, Chanthana Harnruthakorn
09:40-09:50	AO26-3	**Correlation of lung function using forced oscillation technique with spirometry in children aged (4-18 years) with cystic fibrosis (CF)** **Sachin Singh** (India)*, Meenu Singh, Joseph Mathew
09:50-10:00	AO26-4	**Pneumorrhachis Complicated by Spontaneous Pneumomediastinum in Pediatric Patients: An 11-year Retrospective Study in Taiwan** **Yu-Wei Liu** (Taiwan)*, Yu-Tang Chang, Chieh-Ni Kao, Yu-Ling Huang, Hung-Hsing Chiang, Jui-Ying Lee, Hsien-Pin Li, Po-Chih Chang, Shah-Hwa Chou
10:00-10:10	AO26-5	**Risk factors of adverse respiratory outcome after scoliosis surgery in neuromuscular disorder patients** **Kyeong Hun Lee** (Republic of Korea)*, Ji Hye Kim, Dong In Suh, Ji Soo Park
10:10-10:20	AO26-6	**Multicenter Surveillance of Cystic Fibrosis in Korean Children** **Kyung Won Kim** (Republic of Korea)*, Hyung Young Kim, Soo-Jong Hong, Kangmo Ahn, Dong In Suh, Shin Hye Noh, Soo Yeon Kim, Jinho Yu, Jung Min Ko, Min Goo Lee

Oral 27	11:10-12:40	Grand Ballroom 104 (1F)
Respiratory Structure and Function		
Chair	**Sang-Ha Kim** (Yonsei University Wonju College of Medicine, Republic of Korea)	
11:10-11:20	AO27-1	**Lung fuction and bronchiectasis incidence: nationwide population-based cohort study** **Shinyoung Kim** (Republic of Korea)*, Sungkyoung Kim, Chihong Kim, Sohyang Song, Seunghoon Kim, Kyungdo Han
11:20-11:30	AO27-2	**Impact of Bronchopulmonary Dysplasia on Functional and Structural Changes in the Lungs of School-aged Children** **Ji Ye Jung** (Republic of Korea)*, Jeong Eun Shin, Jungho Han, Soon Min Lee, Joohee Lim, Haerin Jang, Ho Seon Eun, Min Soo Park, Soo Yeon Kim, Myung Hyun Sohn, Mi-Jung Lee, Kyung Won Kim
11:30-11:40	AO27-3	**Characterising the effect of body mass index on thoracic mechanics in adults with cystic fibrosis using dynamic chest radiography** **Thomas Simon FitzMaurice** (United Kingdom)*, Caroline McCann, Dilip Nazareth, Martin Walshaw, Paul Stephen McNamara
11:40-11:50	AO27-4	**Standalone electrical impedance tomography system can infer spirometric indices providing global and regional lung function assessment** **Wang Chun Kwok** (Hong Kong)*, Fedi Zouari, Wei Yi Oon, Dipyaman Modak, Peng Cao, Wei-Ning Lee, Terence Chi Chun Tam, Eddie C. Wong, Russell W. Chan
11:50-12:00	AO27-5	**The anatomical variations in tracheobronchial tree through videobronchoscope** **Samruddhi Chougale** (India)*, Amir Khoja
12:00-12:10	AO27-6	**Prevalence of positive bronchodilator response in a real-world clinical setting.** **Geak Poh Tan** (Singapore)*, Gin Tsen Chai, Danqing Qi, John Arputhan Abisheganaden

Oral 28	11:10-12:40	Grand Ballroom 105 (1F)
Respiratory Infections (non-tuberculous) - Pneumonia		
Chair	**Jong Wook Shin** (Chung-Ang University College of Medicine, Republic of Korea)	
11:10-11:20	AO28-3	**Changes in respiratory infection trends during the COVID-19 pandemic in the hematologic malignancy patients** **Jiwon Ryoo** (Republic of Korea)*, Seok Chan Kim, Jongmin Lee
11:20-11:30	AO28-4	**Long Term Predictors of Fatal Pneumonia in a Japanese population** **Minh Nguyen** (United States of America)*
11:30-11:40	AO28-5	**Combining a novel cyclic peptide with antibiotics to treat acute and chronic pulmonary infections with multidrug resistance gram-negative bacteria** **Dhammika Leshan Wannigama** (Thailand)*, Cameron Hurst, Peter N Monk, Shuichi Abe, Paul G. Higgins, Stephen M Stick, Anthony Kicic, Tanittha Chatsuwan
11:40-11:50	AO28-6	**A hybrid AI model with the first 3-day features of CXR and clinical data to predict the survival discharge of pneumonia patients within seven hospital days** **Chieh Liang Wu** (Taiwan)*, Wei Cheng Chen, Lun-Chi Chen, Ruey-Kai Sheu, Kai-Chih Pai, Yu-Cheng Wu
11:50-12:00	AO28-7	**Comparison of beta-lactam monotherapy and combination with fluoroquinolone therapy as initial empiric treatment in patients with hospital-acquired pneumonia: a Korean multicenter cohort study** **Moon Seong Baek** (Republic of Korea)*, Sang-Bum Hong, Kyeongman Jeon, Hye Kyeong Park, Woo Hyun Cho, Soohyun Bae, Heung Bum Lee, Hyun-Kyung Lee, Changhwan Kim, Jae Young Moon, Jin Hyoung Kim, Youjin Chang, Hyun-Il Gil, Beomsu Shin, Kwang Ha Yoo, Kyung Hoon Min, Jee Youn Oh, Ae-Rin Baek
12:00-12:10	AO28-8	**Correlation of fungal infection risk factor on fungal colonization in pulmonary tuberculosis sequelae patients with recurrent hemoptysis in labuang baji hospital** **Jamaluddin Madolangan** (Indonesia)*, Irawaty Djaharuddin

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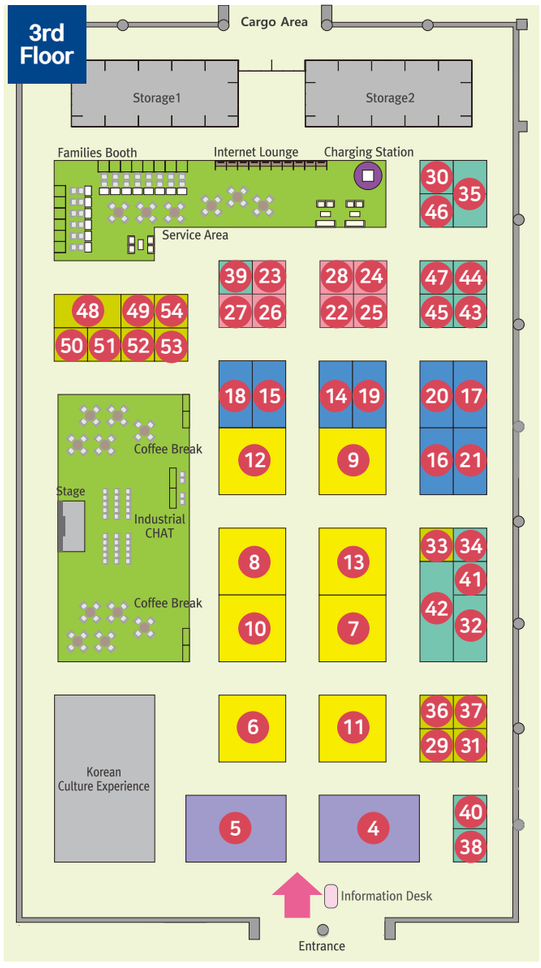
EXHIBITION

Exhibit Floor Plan and Listing

During the APSR 2022, all participants have access to the industry exhibition, which is located in Hall D1 Lobby, Hall D 3F and Grand Ballroom Lobby, 1F Coex. Coffee Break will be served in the exhibition area.

Exhibit Hours

Friday 18 November 09:00-17:00
Saturday 19 November 09:00-17:00
Sunday 20 November 09:00-12:30



Industrial CHAT Hours

Friday 18 November — Daewon Pharmaceutical

Codaewon S 10:55-11:05

Clinical Value and Advantages of New Antitussive

Seong Yong Lim (Sungkyunkwan University School of Medicine, Republic of Korea)

Saturday 19 November — HANLIM PHARM

Bronpass Tab. 10:55-11:05

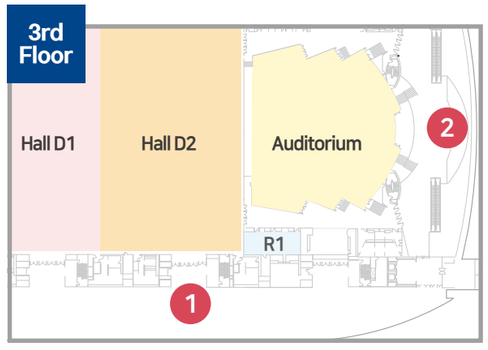
Experimental and Clinical Evidence of Bronpass®

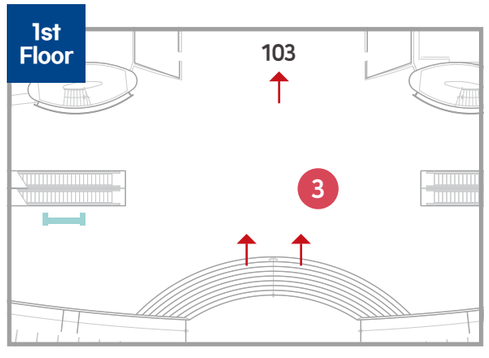
Joon Young Choi (Incheon St. Mary Hospital, Catholic University of Korea, Republic of Korea)

Ulistin Inj. 15:35-15:45

Ulinastatin in ICU

Dong-Hyun Lee (Dong-A University Hospital, Republic of Korea)





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2	GSK	D-2 (3F, Auditorium Lobby)
3	YUHAN	D-3 (1F, Grand Ballroom Lobby)
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5	Novartis	P-2
6	AstraZeneca Korea	G-1
7	Boehringer Ingelheim Korea	G-2
8	Hanmi Pharm.Co.,Ltd.	G-3
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Profiles

BORYUNG

Boryung Co. | Booth No. D-1 (3F, Hall D Lobby)

The history of Boryung began in 1957 with the opening of the Boryung Pharmacy in Jongno 5-ga, based on the spirit of the founder Kim Seung-ho, who used to ride his bicycle around the city to get medicines for sick people no matter how hard they were to find.
The founder's deep devotion with great sincerity to provide "medicine for the sick" has been expanded since 1957 and passed onto our current mission to become an indispensable to human health.
We kindly ask for your consistent attention to our new challenges and journey under the new name Boryung in 2022.

GSK

GSK | Booth No. D-2 (3F, Auditorium Lobby)

GSK is a global biopharma company with a purpose to unite science, technology and talent to get ahead of disease, aiming to impact the health of 2.5 billion people over the next 10 years.

YUHAN

YUHAN | Booth No. D-3 (1F, Grand Ballroom Lobby)

The way of Yuhan
Yuhan corporation, a group loved by the people and grown together with the people for the last 90yeaers, the corporate culture of honesty and integrity, and the strong beliefs in social responsibility are what made Yuhan what it is today. Looking back on the path that we moved on and thinking of the path ahead, Yuhan will make the leap as a global pharmaceutical company through innovative new drug development, and by enabling healthiness and happiness for all the people in the world. In the next 100 years, Yuhan Corporation will follow the noble spirit of our founder, Dr. New Ilhan, and write the history of challenge and development moving forward. Our challenge has already begun.

DAEWON Pharmaceutical

DAEWON Pharmaceutical Co., Ltd. | Booth No. P-1

Founded in 1958, Daewon Pharmaceutical has always been a reliable companion for medical professionals and patients. As one of the largest therapeutic agent manufacturer in Korea, Daewon will always be your unchanging partner, wherever and whenever.

NOVARTIS

Novartis | Booth No. P-2

Novartis - Reimagine Medicine
Across 142 countries worldwide, 110,738 persons work at Novartis and 769m patients are treated with Novartis products. Novartis is building therapeutic area depth as no. of drugs in pipeline from 2018 to 2020 among the top 25 global pharmaceutical firms in the world.
In Korea, Novartis contributes to innovation through scientific collaboration and networking and continues to support neighbors in need with local communities.

AstraZeneca

AstraZeneca Korea | Booth No. G-1

We are focused on creating genuinely innovative medicines and improving access to them. In this way, we deliver the greatest benefit to patients, healthcare systems and societies globally. We have three priorities designed to deliver our growth through innovation strategy.

Boehringer Ingelheim

Boehringer Ingelheim Korea | Booth No. G-2

The pharmaceutical company Boehringer Ingelheim was founded in 1885 by Albert Boehringer in Ingelheim. The company has contributed to human health by continuing to research and develop innovate drugs over the past 130 years.
Day by day, the 50,000 employees of Boehringer Ingelheim create value through innovation with a clear goal to provide more health and improve the lives of both humans and animals. As part of research and development activities for innovative drugs, the company focuses primarily on the therapeutic areas of cardiovascular disease, respiratory diseases, diseases of the central nervous system, metabolic diseases, and oncology.
Boehringer Ingelheim Korea was founded in 1976 and creates value through innovation in the business areas: human medicine, animal medicine.
Among the human pharmaceutical department, anti-cancer drug department is dedicated to shedding light on the unresolved problems of oncology and improving quality of life of patients through steady research based on scientific evidence.

Hanmi Pharm.

Hanmi Pharm.Co.,Ltd. | Booth No. G-3

Creativity & Innovation
Hanmi jumps up to be a global leading pharmaceutical company with development of new biologics, new chemical entities, and innovative new drugs. The slogan of Hanmi is 'creation and challenge' as Hanmi tries to make new ways for the domestic pharmaceutical market. We have started a distribution revolution with RFID technology, the nation's very first success of US expansion with IMD, and R&D collaboration with global companies.

No.1 R&D
In 2014,Hanmi invested over 150 billion won in R&D for the first time. Based on this, Hanmi focuses on developing new drug projects such as LAPSCOVERY and anticancer drugs targeting the global market. The synergy effect of research and development is expected from our “Open Innovation” strategy, which opened other excellent R&D capabilities.

ILDONG

Ildong Pharmaceutical | Booth No. G-4

Since Ildong Pharmaceutical Group was founded in 1941 under the philosophy of ‘pharmaceuticals are rooted in humans’, we have strived for the healthier lives of people placing our highest value on humanity and lives.
It is our belief that we at Ildong Group exist to bring health and well-being to people around the world. We have created and shared significant value for health and prosperity throughout many years and will continue this endeavor.
Ildong has become one of the leading pharmaceuticals in South Korea with powerful brand lineups including Aronamin, Biovita, and other major OTC products. We developed robust product pipelines for ethical drugs using our advanced technologies and diverse strategic partnerships.
Following the successful development of Besivo, a new drug for chronic hepatitis B treatment, we are focusing our resources and efforts on the success of various ongoing R&D projects and pipelines.
Ildong Bioscience, Ildong Hyaltech, Ildong E-commerce, Ildong Healthcare, Uni Communications, Rutec, and all other affiliates are actively promoting the health and well-being of people in various areas- food, health supplement products, distribution, marketing, and IT.
At Ildong Pharmaceutical Group, we continue to make our utmost efforts to create a healthier and brighter tomorrow and adhere to our corporate philosophy of ‘being a leading global organization that helps people live healthier and happier lives.’

KOLON PHARMA

KOLON PHARMA | Booth No. G-5

KOLON PHARMA is striving to become the most trusted company by customers based on transparent and ethical management in a rapidly changing pharmaceutical environment.
In addition, we are concentrating our competencies to develop new excellent brand new products and leading health care products that will lead future growth, and to supply high-quality products, and are making continuous achievements.

ORGANON

ORGANON KOREA Co., Ltd. | Booth No. G-6

Organon is a global healthcare company formed through a spinoff from Merck (known as MSD outside of the U.S. and Canada) with a mission to deliver impactful medicines and solutions for a healthier every day. We build upon our strong foundation of more than 60 medicines and other products across a range of areas including reproductive health, heart disease, dermatology, allergies and asthma.
We bring these important therapies around the world, with an international footprint that serves people in more than 140 markets. We believe the diversity of our business provides a sustainable engine of growth so we can continue to invest in and advance new medicines and treatments for women that are so urgently needed.
We are here for her health.

samA 삼아제약

SAMA PHARM Co., Ltd. | Booth No. G-7

Since SAMA was founded in 1945, we have continuously committed to researching and working to improve the health and the quality of life of people with a core belief in our Respect for Human Dignity and Life. At the same time, we have been practicing precision management as an exemplary pharmaceutical company.
SAMA will continue our utmost efforts in research and development to improve the quality of life through our constant change and innovation. We will also continue to practice our business based on our core value of Respect for Human Dignity.
We wish all of you the good health and happiness.

sanofi

sanofi | Booth No. G-8

Sanofi's specialty care business unit focuses on rare diseases, rare blood disorders, neurology, immunology, and oncology. Sanofi's ambition is to leverage science and innovation to improve people’s lives and be the industry leader in immunology and oncology. Its approach is shaped by a long history of developing highly specialized treatments and forging close relationships with physician and patient communities.

Ahngook pharm.

Ahngook Pharm | Booth No. S-1

For a better life! Realizing human health and happiness through the development of excellent pharmaceuticals
1. We offer safer and more differentiated health care products to our customers by integrating medical technology and digital information.
2. We leap forward as a K-Health company that improves the quality of life for people who take advantage of Ahn-gook's Total Healthcare service.

Chong Kun Dang pharmaceutical

Booth No. S-2

[About Chong Kun Dang]
Manufacture and sale of medicines
Chong Kun Dang Pharmaceutical Corp. is one of leading Korean pharmaceutical manufacturers and has a great strength on domestic sales not only with prescription drugs indicated for anti-hypertension, anti-hyperlipidemia and anti-diabetics but also with OTC drugs such as Penzal, Prefemine, Modcol and consumer health such as insecticides, hairdye, etc.

[Our strategy]
We focus on finding new medicines and diagnostics and establishing data-based insights that evolve the practice of medicine and help patients live longer, better lives.

[OUR MISSION]
Better Life through Better Medicine
Contributing to improved quality of life and
public welfare by developing quality medicine

[Chong Kun Dang]
Dedicated to pharmaceuticals since its foundation, Chong Kun Dang has overcome many challenges,while continuing to grow and contribute to the advancement of Korea's pharmaceutical industry.
In the days when Korea imported 100% of the raw materials required for medicines from abroad, we built Korea's largest plants for chemical synthesis and fermentation, making it possible to produce pharmaceutical ingredients locally using our own technology. From there, we had driven Korean Pharmaceutical Industry with this breakthrough on the path toward modernization.
Furthermore, we became the first Korean pharmaceutical company to export products to the US market through the obtainment of the U.S. FDA
approval. Now, on its 77th anniversary, we promise to put all efforts to lead continuous change and innovation, positioning Chong Kun Dang as a global pharmaceutical company with a competitive edge in the international market.

GeneX Inc.

Booth No. S-3

GeneX Inc. was established in 2013 and contracted with Cepheid Inc. as the sole authorized distributor. we consistently found innovative products from a number of agencies, introducing them to domestic hospitals.
In particular, we have focused on sophisticated products related to molecular diagnostics and IVD based on Real-time PCR product.

MEKICS Co., Ltd

Booth No. S-4

MEKICS is taking the lead in providing total respiratory care solutions by developing 'OmniOx' equipped with HFNC and NIV functions for the first time in the world based on its proprietary respiratory therapy convergence technology and establishing a diverse line-up.
We provide evidence for the effects of demographic and environmental changes on the respiration health of the world's population through continuous and diverse research and create the possibility of extending respiratory therapy, which is limited by time and space to daily life. And we committed by providing products and services suitable for the respiratory therapy environment extended to satisfy both clinician and patient through continuous communication with the medical field

MSD Korea

Booth No. S-5

We have always been and always will be inventing for the single greatest purpose: Life
We aspire to be the premier research-intensive biopharmaceutical company in the world.
For more than 125 years, MSD has been inventing for life, bringing forward medicines and vaccines for many of the world's most challenging diseases in pursuit of our mission to save and improve lives. We've been guided by the view that great medicines and vaccines change the world. Our legacy of inventing medicines and vaccines continues to this day. We adapt our business not only for the next quarter but for the next quarter century.
We demonstrate our commitment to patients and population health by increasing access to health care through far-reaching policies, programs and partnerships.
Today, we continue to be at the forefront of research to prevent and treat diseases that threaten people and animals – including cancer, infectious diseases, such as HIV and Ebola, and emerging animal diseases.

Pfizer Korea

Booth No. S-6

Breakthroughs That Change Patients' Lives
We apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety & value in the discovery, development and manufacture of health care products.

Shinhan Medical Co., Ltd.

Booth No. S-7

Since 1983, Shinhan Medical Co. has been importing high-tech medical equipment specialized in respiratory diagnostics. Beyond importing and supplying the equipment, Shinhan Medical aims to provide the best customer care with our team of well-experienced engineers and educators. Not only that, Shinhan Medical thrives to continuously research and study the matters related to respiratory care to equip ourselves with sound knowledge.
Along with the new Vyntus Series' recent successful launch, now networking the devices and syncing EMR has never been easier.
We promise to provide the best possible quality and value for the patients and physicians.
For more details, please visit our website or contact one of our friendly representatives.

Takeda Pharmaceuticals Korea CO., Ltd.

Booth No. S-8

Takeda Oncology, the Global Oncology Business Unit of Takeda Pharmaceutical, is headquartered in Massachusetts. By concentrating the power of leading scientific minds and the vast resources of a global pharmaceutical company, we are finding innovative way to improve the treatment of cancer.

- ALUNBRIG (brigatinib) Approved for FIRST-LINE USE in ALK+ Metastatic NSCLC
- EXKIVITY (mobocertinib) is an oral therapy that targets epidermal growth factor receptor (EGFR) Exon20 insertion mutations for people who have been on chemotherapy

AJU PHARM CO., LTD.

Booth No. B-1

Since 1953, we have strived to not only treat the sick but also to help everyone live healthier and happier lives through our pharmaceutical, medical device, CMO, and consumer health businesses.
While providing high-quality products through technical innovations and investments in manufacturing facilities, Aju Pharm continually endeavors to create new products through R&D and open innovation.

BUKWANG PHARM. CO., LTD.

Booth No. B-2

Trusted Company
Bukwang Pharmaceutical Co., Ltd. was established on October 17th, 1960 and has since continued to produce excellent medications with the aim of improving global health for the last 55 years. Since Bukwang was listed in the Korea Stock Exchange in 1988, Bukwang is proud to have kept a healthy financial status and stable track record that earned trust from its employees and shareholders. Bukwang's operating profit is at the top of the rank in the industry, nearing 20% as of financial year 2014.
Bukwang's armamentarium consists of more than 100 products in various therapeutic areas: liver disease treatments such as Levovir and Legalon, diabetic complication products such as Dexid and Thioctacid, CNS disorder drugs including Lonasen, Ixel and Orfil, and respiratory disease treatments such as Azeptin and Asima. Bukwang continues to grow its original drug business through consistent focus on new drug development.

DaeWoong Pharmaceuticals Korea CO., Ltd.

Booth No. B-3

Since its foundation in 1945, Daewoong Pharmaceutical has grown into Korea's leading pharmaceutical firm through endless challenges and innovations in line with our corporate philosophy of 'developing quality medicine to safeguard the health of the people and contribute to a healthier society.'
Daewoong Pharmaceutical is consolidating its global competitiveness and R&D capabilities.
Daewoong Pharmaceutical has established itself as Korea's leading pharmaceutical company that researches, develops and manufactures medicines to compete in the global market by engaging in a wide range of partnerships with leading healthcare companies worldwide and building the most number of regional infrastructures compared to other Korean pharmaceutical firms.
In particular, we have obtained International Standard Certifications including the environmental management systems (ISO 14001), occupational health and safety systems (ISO 45001, KOSHA-MS), and quality management systems (ISO 9001). We have acquired GMP Certifications from regulatory agencies of developed countries such as the US Food and Drug Administration (FDA) and European Medicines Agency (EMA), demonstrating our highly developed quality management system.
We strive endlessly to fulfill our goal of producing the world's first-in-class and best-in-class new drug through continuous R&D investment and open collaboration. Our unceasing effort is channeled towards diversifying our new drug pipeline and platform technology to ultimately progress human health and quality of life.
Daewoong Pharmaceutical believes that the growth of employees translates into the growth of the company.
Based on the management principle that the "company grows as its employees grow", Daewoong practices a Smart-Work Office to foster an autonomous and immersive work environment, in addition to introducing Career Development Program (CDP), flexible working, Daewoong Global Talent Program, and Daewoong AI/Bigdata Academy(DABA). We are dedicated to cultivating industry-leading corporate culture and institution.
Daewoong Pharmaceutical will leap beyond Korea and into the world.
Daewoong Pharmaceutical aspires to move beyond its title as Korea's leading pharmaceutical company to become a healthcare group of global reputation. We will promote sustainable future growth by strengthening internal stability through responsible management, and responding quickly and flexibly to external environmental changes.
Daewoong Pharmaceutical will devote itself to become a global healthcare group that creates new values to advance human health and quality of life based on continuous innovation.

HANLIM Pharm. CO., LTD.

Booth No. B-4

Since HANLIM Pharm. was established in 1974, we have constantly put our entire effort to develop and provide a wide range of pharmaceutical products. We will strive to create significant and sustainable values in the future and expand our research and development pipleline in various therapeutic areas.

Janssen Korea

Booth No. B-5

At Janssen, we're creating a future where disease is a thing of the past. We're the Pharmaceutical Companies of Johnson & Johnson, working tirelessly to make that future a reality for patients everywhere by fighting sickness with science, improving access with ingenuity, and healing hopelessness with heart. We focus on areas of medicine where we can make the biggest difference: Cardiovascular & Metabolism, Immunology, Infectious Diseases & Vaccines, Neuroscience, Oncology, and Pulmonary Hypertension.
* We Are Pioneers: We have 40,000 people around the world who show up every day to achieve the unimaginable. This work requires heart, science, and ingenuity. We never stop imagining a future where the most challenging diseases are a thing of the past.
* We Are Focused: We are driven by the fact that patients are waiting for breakthroughs. We focus on six areas of medicine where the need is high, the science is compelling, and the opportunity to make a difference is great.
* We Are Partners: In order to make the greatest impact, we collaborate with experts at every stage, from early discovery to market access.

Roche Korea Co., Ltd

Booth No. B-6

Roche Korea is a Korean affiliate of the pharmaceutical division of Roche Group, a global leader in cancer treatment and personalized healthcare. Since its foundation, it has constantly provided innovative treatments for cancer, the No.1 cause of death in Korea, establishing itself as the nation's largest cancer-drug provider. It builds all the business activities on Patient-centricity. It works with researchers from nearly 500 medical institutions in Korea for the development of innovative drugs and strives to expand patient access to them. In immunotherapy, a promising field of cancer treatment, it has been able to improve patient access by adding non-small cell lung cancer and urothelial cancer to the reimbursed indications of its immuno-oncology drug Tecentriq through the reimbursement negotiations, where it was able to remove restrictions on the reimbursement, including PD-L1 expression. Its impressive move has been once again observed in July this year when it was able to add extensive-stage small cell lung cancer to the reimbursed indication of its immunotherapy. Roche Korea strives to build a fast and efficient corporate culture by adopting agile methods and practices in its operations to offer innovative drugs to more patients faster. It has been on the list of Korea's top 100 best workplaces for two years in a row—2018 and 2019—for constantly creating new opportunities for employment and offering better working condition. Roche Korea is making various endeavors to provide greater treatment options to patients and healthcare professionals and create a better healthcare environment where patients have affordable access to treatment. With bold investment in R&D, it hosts 45% of the oncology trials and 30% of early phase trials, carried out by the global headquarters. Going forward, it will continue to dedicate itself to the development and delivery of novel drugs. Based on the "One Roche" team spirit, shared with Roche Diagnostics Korea, a Korean office of the Diagnostics division, it will provide innovative solutions for personalized healthcare that combine the diagnostics, treatment, and monitoring of diseases, taking the lead in a journey towards a healthier Korea.

Teva-Handok

Booth No. B-7

Teva-Handokis a pharmaceutical company established in October 2013, a joint venture stablished by joint investment of Teva, a global pharmaceutical company, and Handok with a 68-year tradition in Korea. Teva-Handok provides innovative new drugs and generic drugs to fulfill its vision of "giving more benefits to more patients", and plans to launch drugs in various fields in the future.

Abbott Korea

Booth No. E-1

Since 1980, Abbott Korea has been dedicated to helping Koreans live healthier lives through a diverse range of diagnostics tools, medical devices and branded generic pharmaceuticals.
Abbott established pharmaceuticals business specializes in the following high-growth therapeutic areas: gastroenterology, women's health, cardiometabolic, pain management/central nervous system, respiratory and influenza vaccines. Abbott is the only global company with a pharmaceutical business that is 100 percent focused on emerging markets. We have built our pharmaceuticals business to be driven locally and powered globally, which helps us meet local health needs. Abbott will continue to strive to do more. Offer more affordable medicines, offer more health solutions and keep more people healthy.

BCworld Pharm.

Booth No. E-2

BCWP is expertized in the formulation and process development to provide quality generics. BCWP not only has been certified as Korea Innovative pharmaceutical company but also designated as Advanced Technology Center. BCWP is specialized in DDS technologies by way of proactive investments. In facilities complied with EU/ cGMP standards, liquid and powder injection, lyophilized injection, and oral solid forms are manufactured. In 2019, the manufacturing site dedicated to Carbapenem injections completed its construction in Wonju city.

Broncus Medical

Booth No. E-3

Broncus, a pioneer in the field of Interventional Pulmonology, is a medical device company specializing in the global development and distribution of innovative lung solutions. Broncus' integrated whole lung access navigation platform addresses the clinical challenges and unmet needs of existing technologies in the diagnosis and treatment of lung disease. Our vision is to be a global leader in the transformation of lung disease treatment. Our mission is to establish bronchoscopic diagnostic and therapeutic solutions as the gold standard for the diagnosis and treatment of lung disease.

Erbe Medical

Booth No. E-4

ERBE ELEKTROMEDIZIN GMBH
Setting standards since 1851
As a family-owned and operated business, Erbe develops, manufactures and markets surgical systems for professional use in various medical disciplines all over the world.

FCU Co., Ltd.

Booth No. E-5

We develops and manufactures Mobile ultrasound imaging systems and Ultrasound probes. As a professional medical device manufacturer, we have ISO13485/KGMP/MFDS/CE/FDA-certificated products. In particular, we have the world's first needle navigation mobile ultrasound that shows the expected needle path and the expected destination of the needle tip in real time. It has not only Best-in-class image quality for diagnosis but also Needle guide system. It provides medical staff with accurate and safe procedures to avoid hazardous areas. It will increase their convenience and keep the patient safe.

Fisher & Paykel Healthcare Asia Ltd.

Booth No. E-6

At Fisher & Paykel Healthcare, we fully understand the life-changing impact that can result from delivering inspired and world-leading healthcare solutions.
After all, we changed the way the world delivers respiratory humidification to critically ill patients in hospital, and were the first organization in the world to make a humidifier specifically for use in the treatment of patients with obstructive sleep apnea.
Today, through an unrivalled commitment to innovation; to doing the right thing; and doing what is best for the patient, we continue to inspire world-leading healthcare solutions.
Our team of self-motivated, empathetic and committed individuals is our strength. It is this team; our originality; the value we place on relationships; our international perspective; and the utmost care for all patients, customers, suppliers, shareholders, as well as the environment, that will ultimately ensure we will be the healthcare company of choice.

GE Healthcare Korea

Booth No. E-7

As a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform.
We are committed to fostering an inclusive culture of respect, transparency, and unyielding integrity. We`re working to solve the greatest challenges in healthcare that patients and clinicians face to and in the future. Together, we are not only building a healthier future but living our purpose to create a world where healthcare has no limits.

Handok

Booth No. E-8

The Health Innovator, Handok.
Handok (Chairman & CEO Young-Jin Kim) is committed to innovation and its business has grown both through strategic partnerships with other companies as well as through innovative research. Handok was founded in 1954 and has been listed on the Korea Stock Exchange since 1976. The company has never recorded a deficit year since establishment.
Handok grew as a joint venture with Hoechst/Aventis/Sanofi from 1964 to 2012. Handok has also established strategic collaborations in several areas with multiple multinational pharmaceutical companies. Handok ended its joint venture relationship with Sanofi in 2012 and became an independent company again. Handok changed its company name from Handok Pharmaceutical Co., Ltd to Handok Inc. and declared its vision to become "The Health Innovator" and as Korea's leading global healthcare company. Handok introduces new products to the Korean market through partnerships, internal R&D, and state-of-the-art manufacturing while maintaining a global standards compliance program.
Handok is a total healthcare company. Handok's businesses mainly focus on prescription drugs along with consumer health care products, medical devices and in vitro diagnostics, food supplements and medical nutrition.
Handok is one of the leading pharmaceutical companies which highly value ethical business practices. It has fully implemented comprehensive codes of conduct. This commitment has been recognized with the Special Ethical Management Award conferred by the Health Industry CEO Summit in 2008 and the Excellence prize for Transparent Management by Korea's five major economic organizations including KEF, FKI in 2010.

Hunan Vathin Medical Instrument Co.,Ltd.

Booth No. E-9

Vathin specializes in the production , development and sales of single-use bronchoscopes. Core employees of Vathin have more than 20 years' experience in materials, optics, structure, electronics, software, manufacturing and other fields. In addition, our company dedicated on the guideline of " Safe Simply Smart " and has carried forward of the corporate spirit of " Humanism, innovation and preciseness" .

Korea Otsuka Pharmaceutical Co.,Ltd

Booth No. E-10

Korea Otsuka Pharmaceutical is the Korean subsidiary of esteemed global pharmaceutical company Otsuka Pharmaceutical. Despite being a subsidiary of a multinational pharmaceutical company, Korea Otsuka Pharmaceutical has established a self-reliant operational foundation in South Korea and contributed to the advancement of Korea's pharmaceutical industry by investing the revenue generated from the sales of pharmaceutical products back into production equipment and clinical research.
Equipped with a large-scale production facility in South Korea, Korea Otsuka Pharmaceutical contributes to the country's job creation and economic development by supplying superior pharmaceutical products, both domestically and internationally. In addition, we help to treat diseases and to maintain and improve the everyday health of Koreans by developing new drugs and creating added value for our products. Korea Otsuka Pharmaceutical is diligently fulfilling our role and mission as a company that contributes to the healthy life of Koreans, providing continuous values based on a deep understanding of customers, the market and corporate social responsibility.

Kwangdong Pharmaceutical

Booth No. E-11

Kwangdong was founded with the goal of providing high quality pharmaceuticals to our customers. We have developed pharmaceuticals and healthcare products for the improvement of human life.

National Hospice Center

Booth No. E-12

The National Hospice Center (NHC) strives to establish holistic care environment by improving availability, quality, evidence, and cooperation for end-of-life care. To effectively achieve the above goals, NHC currently functions in the following areas: monitoring quality of care, developing and distributing educational program, raising public awareness and producing evidence on end-of-life care. The National Cancer Center has been designated as a NHC by the Ministry of Health and Welfare since 2017, and has played various roles in improving the quality of life of terminally ill patients and their families.

NAUMED Inc.

Booth No. E-13

NAUMED Inc. is constantly striving to create greater value for healthcare workers and patients and to provide the best products and services.
"Provision of the latest medical technology"
NAUMED Inc. is trying to provide innovative and advanced products in high quality to the Korean medical market and to introduce new medical technology to the Korean market in line with the trends of the medical industry.
"Best Technical Support"
Our employees constantly receive training internally and receive training by overseas headquarters regularly to ensure that our customers are comfortable using innovative and up-to-date medical equipment and that patients receive optimal treatment.
"Growing Company, Pursuing Change and Innovation"
With rapid changes in the medical environment, NAUMED Inc. always studies and experiences in the field and strives to grow with the medical community without fear of change and innovation. Through this, we want to create corporate value and promote the development of our members.

OLYMPUS KOREA CO., LTD

Booth No. E-14

Olympus Korea (OKR) was established in 2000 as the sixth overseas corporation of Olympus Group. After establishing, OKR has shared Olympus' brand value in the Korean market by providing various our products such as endoscope, Endo-therapy accessories and surgical products.

As a leading medical technology company, our medical business uses innovative capabilities in medical technology, therapeutic intervention, and precision manufacturing to help healthcare professionals deliver diagnostic, therapeutic, and minimally invasive procedures to improve clinical outcomes, reduce overall costs, and enhance the quality of life for patients and their safety. Olympus' Medical portfolio includes endoscopes, laparoscopes, and video imaging systems, as well as surgical energy devices, system integration customer solutions, medical services, and a wide range of endotherapy instruments for endoscopic and therapeutic applications.

PENTAX Medical Korea

Booth No. E-15

PENTAX Medical is a division of HOYA Group delivering endo-imaging solutions. Established in 1919 in Japan, PENTAX Medical is a globally diversified company with R&D innovation and manufacturing centers in Japan, Europe and the United States. Through leading-edge optical technologies, PENTAX Medical is providing the most advanced clinically relevant endo-imaging solutions. Together with comprehensive customer service offerings, PENTAX Medical is collaborating with customers worldwide to create long-term partnerships and customer satisfaction.

ResMed Korea

Booth No. E-16

* About ResMed
Every day we come to work with a focus on building and supporting technology that helps people live healthier, happier lives. It began over 30 years ago with the invention of a machine that helped people breathe easier and sleep better. And it continues today with digital health solutions that help keep people out of the hospital.

* Our drive to innovate
We're leading the way in cloud-connected medical devices that transform care for people with sleep apnea, COPD and other chronic diseases. Our comprehensive out-of-hospital software platforms support the professionals and caregivers who help people stay healthy in the home or care setting of their choice.

Thermo Fisher Scientific Korea

Booth No. E-17

Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science, with annual revenue of approximately $40 billion. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether our customers are accelerating life sciences research, solving complex analytical challenges, increasing productivity in their laboratories, improving patient health through diagnostics or the development and manufacture of life-changing therapies, we are here to support them. Our global team delivers an unrivaled combination of innovative technologies, purchasing convenience and pharmaceutical services through our industry-leading brands, including Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, Unity Lab Services, Patheon and PPD.
For more information, please visit www.thermofisher.com.

YUNGJIN PHARM

Booth No. E-18

Yungjin Pharm. Co., Ltd was established in 1952, has been playing a major role as a forerunner in the Korean pharmaceutical industry for half a century. With our inspiring mission statement, "To relieve the suffering of mankind from diseases with our innovative, effective and safe pharmaceutical products", we have shown our successful contribution not only within Korea, but also through global expansion. As a result, we have received a total of 25 awards including the President Award for Superior Product Development, the Prime Minister Award, Industry Award and many more. These accomplishments demonstrate our sustainability and commitment to the development of innovative products and business excellence in both overseas and domestic segments.

YUYU Teijin Medicare

Booth No. E-19

Yuyu Teijin Medicare was established in 2006 as a joint venture with Yuyu pharma (Korea) and the Teijin group(Japan), and now is the leading provider of home healthcare service including home oxygen therapy(HOT), Ventilator and sleep apnea treatment in Korea.
About Yuyu Pharma
Yuyu Pharma(KRX: 000220) is a pharmaceutical company founded in 1941. The company manufactures, distributes, and does marketing for pharmaceutical products, medical devices, and medical foods in South Korea and Southeast Asia. Currently, Yuyu Pharma is focusing on developing new drugs for treating enlarged prostates and dry eye syndrome.
About the Teijin Group
Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the areas of environmental value; safety, security and disaster mitigation; and demographic change and increased health consciousness. Its main fields of operation are high-performance fibers such as aramid, carbon fibers & composites, healthcare, films, resin & plastic processing, polyester fibers, products converting and IT.

APSR

Booth No. E-20

The objectives of the APSR are the advancement and promotion of knowledge of the respiratory system in health and disease. The Society strives to encourage research, improve clinical practice through training, increase awareness of health problems and promote the exchange of knowledge among respirologists in the Asia-Pacific region and beyond.

APSR 2023

Booth No. E-21

The 27th Congress of the Asian Pacific Society of Respirology

The Congress brings together the world's respiratory experts to present and discuss the latest scientific and clinical advances across the field of Respiratory Medicine. It is a valuable platform for all to learn from the leading experts, exchange ideas and stay up-to-date in Respirology. The theme for APSR Congress 2023 is Current Practice Future Care.

Whether you are a healthcare professional, researchers, scientist, academic or industry expert, there will be something for you!

American Thoracic Society

Booth No. E-22

The American Thoracic Society improves global health by advancing research, patient care, and public health in pulmonary disease, critical illness, and sleep disorders. Founded in 1905 to combat TB, the ATS has grown to tackle asthma, COPD, sepsis, acute respiratory distress, sleep apnea, and more.

European Respiratory Society

Booth No. E-23

The European Respiratory Society (ERS) is an international organisation that brings together physicians, healthcare professionals, scientists and other experts working in respiratory medicine. It is one of the leading medical organisations in the respiratory field, with a growing membership representing over 160 countries worldwide. Its mission is to promote lung health in order to alleviate suffering from disease and drive standards for respiratory medicine globally. www.ersnet.org

Japanese Respiratory Society

Booth No. E-24

The Japanese Respiratory Society (JRS) was founded in 1961. There are now approximately 13,000 members making it the biggest scientific respiratory society in Asian-Pacific Region.

JRS contributes to the promotion of respiratory health and welfare by engaging innovative science, culture, education, and clinical research in the field of respiratory health and diseases.

The 63rd Annual Meeting of the JRS will be held in Tokyo, 28-30 April 2023 under the presidency of Kazuhisa Takahashi. The theme of the Annual Meeting will be "Future of pulmonology pioneered by the fusion of knowledge"

Since Annual Meeting of 2001, the JRS began integrating international programs, which have been continuing with exchange and liaison with the Asian Pacific Society of Respirology, the American Thoracic Society and the European Respiratory Society.

The 10 JRS assemblies have been working actively.

- Cell and Molecular Biology
- Structure and Function
- Diffuse Lung Disease
- Thoracic Oncology
- Clinical Problems
- Allergy, Immunology and Inflammation
- Obstructive Lung Disease
- Infections and Tuberculosis
- Respiratory Care
- Pulmonary Circulation and Lung Injury

"Respiratory Investigation" is an official journal, published in English. The journal publishes original manuscripts on clinical investigations of a variety of respiratory diseases and medicines, along with articles concerning basic physiology, pathology, and cellular/molecular biology relating to any pulmonary diseases. The journal accepts contributions from members and non-members of the Society.

JRS invites you to apply for the Study Abroad Support for Foreign Researchers (Harasawa) Fellowship. The Fellowship aims to provide support to young researchers and specialised respiratory clinicians from countries other than Japan, who are pursing studies abroad and wish to contribute to the progress and development of respiratory study.

KATRD

Booth No. E-25

The Korean Academy of Tuberculosis and Respiratory Diseases is preceded by the Academic Division of the Korean National Tuberculosis Association which was established on November 6, 1953 with the goal of advancing the research and study on tuberculosis and respiratory diseases and eradicating tuberculosis in Korea.

KATRD has 1,930 members as of November 2022. The Busan Chapter was formed in 1977, the Daegu Kyungbuk Chapter in 1985, the Kwangju Cheonnam Chapter in 1987, the Cheonbuk Chapter in 1989, the Kangwon Chapter in July 2003, the Daejeon Chapter in August 2007, and Jeju Chapter in 2012. The chapters are actively involved in academic exchanges and building fellowship among its members in manners that befit the respective regions.

Official Journal of the Asian Pacific Society of Respirology
Respirology

Respirology Editorial Office

Booth No. E-26

Respirology and Respirology Case Reports are the official peer-reviewed journals of the APSR, publishing research papers and clinical cases in all fields of respiratory medicine. APSR members receive free access to both publications, and a 50% discount on the article publication charge for Respirology Case Reports

APSR 2022
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Synatura® Product Information

[분류번호] 222 / 진해거담제 **[성분 · 함량]** 100 mL 중 황련수포화부탄올건조엑스 87.5 mg, 아이비엽 30%에탄올엑스 262.5 mg **[효능 · 효과]** 1. 다음 질병으로 인한 기침, 가래 : 급성 상기도 감염, 만성 염증성 기관지염 2. 급성 기관지염 **[용법 · 용량]** 1. 다음 질병으로 인한 기침, 가래 : 급성 상기도 감염, 만성 염증성 기관지염 – 연령에 따라 아래의 용량으로 1일 3회 경구투여 • 만 2~6세 : 1회 5 mL, • 만 7~14세 : 1회 10 mL, • 만 15세 이상 : 1회 15 mL 2. 급성 기관지염 – 만 19세 이상 성인 : 1회 15 mL, 1일 3회 경구투여 **[저장방법]** 기밀용기, 실온(1~30 °C)보관 **[보험코드]** 10 mL : 650203654 / 15 mL : 650203656 / 500 mL : 650203651 **[보험약가]** 189원/10 mL/포, 283원/15 mL/포, 19원/500(1) mL/병 **※제품 정보는 축약된 내용이므로, 자세한 정보는 각 제품설명서를 참고하시기 바랍니다.**

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[심비코트는 천식환자의 치료, 중증의 만성폐쇄성폐질환에 허가되어 있습니다. 한국아스트라제네카는 허가되지 않은 적응증, 용량을 권장하지 않습니다.]

Reference 1. Partridge MR, et al. Attitudes and actions of asthma patients on regular maintenance therapy: the INSPIRE study. BMC Pulmonary Medicine 2006, 6:13. **2.** 2019 GINA. **3.** 2020 GINA. **4.** 2021 GINA

Product Information [성분·함량] 심비코트 터부헬러 160/4.5㎍ (1g 중 주성분 : 부데소니드(미분화)(별규) … 180mg, 포르모테롤푸마르산염수화물(별규) …5mg) **[적응증]** 천식환자의 치료, 중증의 만성폐쇄성 폐질환 **[용법·용량]** 천식 · 이 약은 천식 증상의 예방과 증상의 완화 그리고 증상악화 위험의 감소를 포함한 전반적인 천식의 조절을 위한 천식의 치료를 목적으로 한다. 이 약은 흡입 코르티코스테로이드의 사용이 적합한 천식 환자들에게 천식의 중증도와 상관없이 투여 가능하며 용량은 질환의 중증도에 따라 개인별로 조절해야 한다. 이는 치료의 시작 시기뿐 아니라 용량 조절 시기에도 고려되어야 한다. 만일 환자 개개인이 복합제로서 가능한 용량 이외의 복합 용량을 필요로 하는 경우 개개 성분의 흡입제에 의한 적절한 용량의 β 2 효능약이나 코르티코스테로이드를 처방하여야 한다. 환자는 정기적으로 의사의 진단을 받아 최적의 용량을 유지할 수 있도록 해야 하며 천식증상을 조절할 수 있는 최저용량으로 유지되어야 한다. 이 약은 아래와 같은 치료 요법들이 있다. 1.항염증 증상완화요법(Anti-inflammatory reliever therapy) 2.항염증 증상완화요법을 포함한 유지요법(Anti-inflammatory reliever plus maintenance therapy) 3.유지요법(Maintenance therapy) 항염증 증상완화요법(경증천식환자): (1) 12세 이상의 청소년 및 성인: 환자는 증상완화를 위하여 필요시 1회를 흡입해야 하며, 천식 조절을 위하여 알레르기원 또는 운동으로 유발된 기관지수축의 예방 목적으로도 사용할 수 있다. 환자가 1회에 6번을 초과하여 흡입하지 않도록 한다. 총 1일 흡입용량은 8번 이하이지만 예외적인 경우에 일시적으로 1일 최대 12번까지 흡입할 수 있다. ·항염증 증상완화요법을 포함한 유지요법 : (1) 12세 이상의 청소년 및 성인: 환자들은 추천 유지 용량(1회 1번을 1일 2회 흡입. 아침 1회, 저녁1회씩 흡입 또는 아침에만 2회 흡입 또는 저녁에만 2회 흡입)을 흡입한다. 일부 환자는 최대 1회 2번을 1일 2회 유지요법으로 흡입할 수 있다. 환자는 증상완화를 위하여 필요시 1회를 흡입해야 하며, 만약 증상이 수분동안 지속되면 추가적인 흡입이 필요하다. 환자가 1회에 6번을 초과하여 흡입하지 않도록 한다. 총 1일 흡입용량은 8번 이하이지만 예외적인 경우에 일시적 으로 1일 최대 12번까지 흡입할 수 있다. 1일 흡입용량이 8번 이상 요구되는 환자는 추가적인 의학적 처치가 필요하며, 환자의 상태를 재평가하고, 유지요법을 재고하여야 한다. (2) 12세 미만의 소아: 12세 미만의 소아에게 증상완화를 포함한 유지요법은 추천되지 않는다. · 유지요법 : (1) 18세 이상의 성인 : 1회 1~2번을 1일 2회 흡입하거나 또는 1회 1~2번 1일 1회 흡입한다. 일부환자는 최대 1회 4번을 1일 2회까지 흡입할 수 있다. (2) 12~17세의 청소년 : 1회 1~2번을 1일 2회 흡입하거나 또는 1회 1~2번 1일 1회 저녁에 흡입한다. (3) 6세 이상 12세 미만 소아 : 1회 1번을 1일 2회 흡입한다. 1일 최대 2번까지 흡입할 수 있다. (4) 6세미만의 소아 : 6세 미만의 소아에 대하여 이 약의 투여는 추천되지 않는다. · 이 약 1일 2회 투여로 증상이 조절될 경우, 지속형 기관지 확장제가 증상조절에 필요하다는 의사의 처방이 있는 경우에 한하여, 최저유효용량으로의 용량 조절 범위에 이 약 1일 1회 투여가포함될 수 있다. · 구제요법으로 사용하는 속효성 기관지확장제의 용량 증가는 기저 질환의 악화를 나타내며 천식 치료가 재평가되어야 한다.· 증상이 조절된 경우, 천식증상을 조절할 수 있는 최저용량으로 유지되어야 한다. 특정환자군 · 노인환자의 경우 용량을 조절할 필요는 없다. · 간이나 신손상 환자에서 이 약의 사용에 대한 자료는 없다. 부데소니드와 포르모테롤은 주로 간대사를 통해 제거되므로 심각한 간경화 환자에게는 노출의 증가가 예상된다. 만성 폐쇄성폐질환 성인 : 1회 2번을 1일 2회 흡입 [사용상 주의사항] 다음 환자에는 투여하지 말 것 : 1. 부데소니드나 포르모테롤 또는 흡입 유당에 과민증 (알레르기성)인 환자 2. 6세 미만의 소아 ※ 문헌개정연월일: 2019년 11월 1일 **※보다 자세한 사항은 제품설명서 전문을 참조하시거나 아스트라제네카(주) TEL : (02. 2188. 0800)로 문의 바랍니다.** (자세한 내용은 홈페이지 참조) aSYM20191101b

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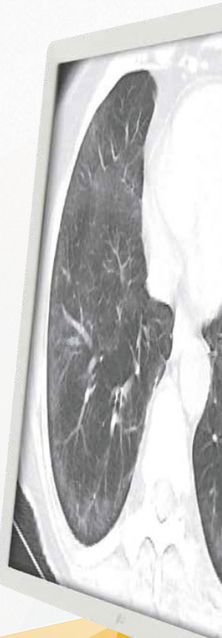
OFEV® is approved across 3 fibrosing interstitial lung disease (ILD) indications.[1]

- Treatment of idiopathic pulmonary fibrosis (IPF)
- Slowing the rate of decline in pulmonary function in patients with systemic sclerosis-associated interstitial lung disease (SSc-ILD)
- Treatment of chronic fibrosing interstitial lung diseases with a progressive phenotype (PF-ILD)



Face ILDs HEAD ON

and modify ILD progression
by slowing lung function decline[2-4]

ILD, interstitial lung disease; **IPF,** idiopathic pulmonary fibrosis; **PF-ILD,** pregressive fibrosing interstitial lung disease; **SSc-ILD,** systemic sclerosis-associated interstitial lung disease.

References 1. OFEV® (nintedanib) Prescribing Information (2022.09). **2.** Crestani B, et al. *Lancet Respir Med*. 2019;7(1):60-68. **3.** Distler O, et al. *N Engl J Med*. 2019;380(26):2518-2528. **4.** Flaherty KR, et al. *N Engl J Med.* 2019;381:1718-1727.

OFEV® soft gelatin capsules (Nintedanib esilate) [Composition] OFEV 150 mg (nintedanib esilate) 1 soft capsule contains nintedanib esilate 180.60 mg, OFEV 100mg (nintedanib esilate) 1 soft capsule contains nintedanib esilate 120.40 mg **[Indications and Usage]** Treatment for Idiopathic Pulmonary Fibrosis. Slowing the rate of decline in pulmonary function in patients with Systemic Sclerosis-associated Interstitial Lung Disease. The treatment of chronic fibrosing Interstitial Lung Diseases (ILDs) with a progressive phenotype. **[Dosage and Administration]** It is recommended to administer 150 mg twice daily 12 hours apart in adults. Take the whole capsule with water immediately after meal, it should not be chewed. The capsule should not be opened or crushed. The 100 mg twice daily dose is only recommended to be used in patients who do not tolerate the 150 mg twice daily dose. Treatment with this medicine should be initiated by physicians experienced in the diagnosis and treatment of conditions for which this medicine is indicated. Conduct liver function tests and a pregnancy test when initiating treatment with this medicine. If a dose is missed, administration should resume at the next scheduled time at the recommended dose. If a dose is missed the patient should not be given an additional dose. The recommended maximum daily dose of 300 mg should not be exceeded. **[Precautions in Use]** 1. Contraindications 1) Patients with known hypersensitivity to the active ingredient of this medicine, peanut or soya, or any of the excipients 2) During pregnancy and nursing 3) Patients with moderate hepatic impairment (Child Pugh B) and severe hepatic impairment (Child Pugh C). **[Storage conditions]** Do not store above 25°C. **※For more information about the product, please refer to the latest product label.**

※ This material is only for HCP.

PC-KR-103277

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뮤코미스트® BFS*는 **더 편리한 개봉**이 가능합니다.

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1. 플라스틱캡 개봉 2. 알루미늄캡 개봉 3. 고무캡 개봉

뮤코미스트® BFS* 개봉과정

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✓ 원외처방 시 환자가 직접 1:1 생리식염수 희석 과정 필요

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*BFS : Blow-Fill-Seal technology

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뮤코미스트® BFS는 **LDPE* 소재**로 주사제 혼동 가능성이 적습니다.

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주사제와 동일한
Glass 소재의 바이알

흡입형 의약품과 동일한 제형

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파손 위험성 감소

Glass 소재의 바이알

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BFS

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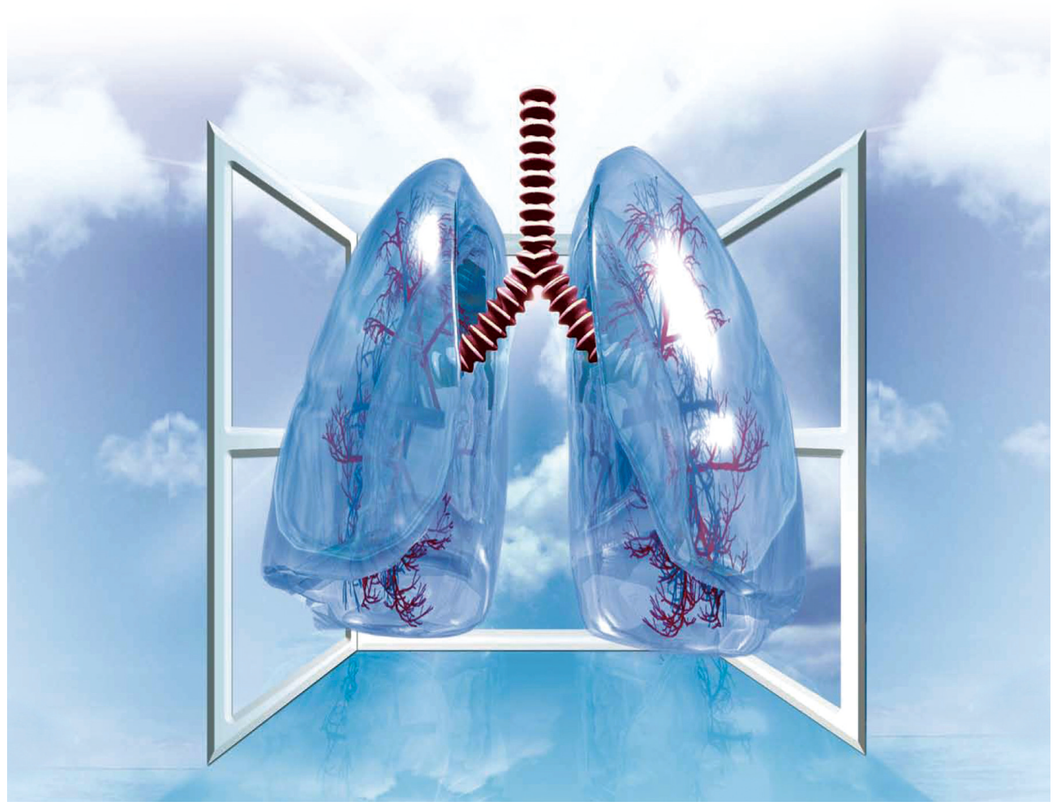

1st Choice Original Doxofylline

액시마®정

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다수의 임상 시험 결과, 액시마®정은 theophylline, aminophylline만큼 우수한 기관지확장 효과를 나타냄이 입증되었습니다.

2. 부작용의 현저한 감소 :

주성분 독소필린은 아데노신 수용체와의 친화력이 작아 부작용 발현이 매우 적습니다. 따라서 중추신경계, 위장관계, 심혈관계, 수면 장애 등의 부작용이 기존의 theophylline 제제보다 현저히 낮아졌습니다.

[제품정보]

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2. 효능·효과 :
   - 기관지 천식
   - 만성폐쇄성기관지염
3. 용법·용량 : 성인 1회 1정씩 1일 2~3회 투여
4. 의료보험코드 : 642201540(구 A13102851)

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ABS
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CAP
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More
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New paradigm in COPD treatment

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COPD 증상 개선 및 악화 예방-엘도스®

- Muco-modulatory activity
- Bronchial anti-inflammatory activity
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Ref.> 1. Dal Negro RW, et al. *Eur Pespir J*. 2017;50:1700711. 2. Dal Negro RW, et al. Poster presentation. ERS. 2017. PA675. 3. Moretti M, et al. Poster presentation. ERS. 2017. PA685.

We're Ready to Support Your Rapidly Changing Needs During Outbreaks and Epidemics

Xpert® Xpress SARS-CoV-2

Intended Use
Detection of SARS-CoV-2

Test Run Time (Min)
45' (Early Assay Termination for positive results, 30')

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Intended Use
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Test Run Time (Min)
48'

Xpert® MTB/RIF

Intended Use
Detection of MTB and rifampin resistance mutations

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Xpert® *C. difficile*

Intended Use
Detection of *Clostridium difficile* infection and differentiate 027 strain

Test Run Time (Min)
48'

Xpert® SA Nasal Complete

Intended Use
Pre-surgical testing of *S. aureus* and MRSA

Test Run Time (Min)
71'

Xpert® EV

Intended Use
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- 치료 시작 전 12개월 이내에 **혈중 호산구 300 cells/㎕ 이상**

중증 호산구성 천식 치료제[1]

누칼라

N U C A L A

Reference: 1. Nucala Prescribing Information.

사용상의 주의사항[2]

1. 다음 환자에게는 투여하지 말 것 이 약인 주성분 또는 다른 성분에 과민 반응 병력이 있는 환자 **2. 유해 사례** 1) 임상 시험 임상 시험은 매우 다양한 조건에서 실시되므로, 특정 약인 임상 시험에서 관찰되는 유해사례 발생률을 다른 약제 대한 임상 시험 결과와 직접 비교할 수 없으며, 임상적 시험에서 발생률을 반영하지 않을 수 있다. 24~52주 동안 수행된 3개인 무작위 배정, 위약 대조, 다기관 시험, 중증 호산구성 천식 임상 시험에서 총 1,327명이 시험(시험 평가)했다. 등록된 시험자 중 59%가 여성, 85%가 백인이었고, 연령은 12 ~ 82세 범위였다. 이 약은 4주마다 1회 피하 또는 정맥주사로 투여되었고, 이 중 26개월이 시험(자가 이 약100 mg 피하 주사)를 투여했다. 1명이 넘는 시험자에서 발생하다고, 이 약을 투여한 시험군(n= 263)에서 위약군(n = 257)보다 더 높은 빈도로 발생한 중대한 유해사례(또는 대상 포진이 있었다(각각 2명 vs. 0명). 이 약을 투여한 시험자의 약 2%, 위약을 투여한 시험자의 약 3%가 유해사례로 인해 임상시험을 중단하였다. 이 약100 mg 피하 주사)를 투여한 2개인 유증상 및 안전성 확증적 임상시험(메시지15588 및 MEA115575) 첫 24주 동안 유해사례 발생률은 다음 표 1과 같다.

주사 부위 반응 주사 부위 반응(예, 통증, 홍반, 부종, 가려움, 및 화끈거림)은 이 약 투여군에서 8%, 위약군에서 3% 발생하였다.

[표 1] 중증의 호산구성 천식 시험자 중 이 약 투여군에서 3% 이상 발생하고, 위약군보다 더 많이 발생한 유해사례

유해사례	이 약(n = 263) %	위약(n = 257) %
두통	51(19%)	46(18%)
주사부위 반응	20(8%)	8(3%)
인후염	14(5%)	9(4%)
요로감염	13(5%)	11(4%)
감기	7(3%)	6(2%)
요로감염	9(3%)	4(2%)
상복부 통증	7(3%)	5(2%)
기관염증	7(3%)	5(2%)
습진	9(3%)	1(<1%)
권태	7(3%)	1(<1%)

Abbreviated Prescribed Information 02 [제품요약정보] 누칼라주(메폴리주맙, 유전자재조합) 전문의약품 수입의약품

■원료약품 및 그 분량 1 바이알 중 원톨리주맙 (벌규) 144 밀리그램 **■효능효과** 성인에서 기존 치료에 적절하게 조절되지 않는 다음의 중증 호산구성 천식 치료의 추가 유지 요법 – 치료 시작 시 혈중 호산구 150 cells/㎕ 이상 또는 – 치료 시작 전 12개월 이내에 혈중 호산구 300 cells/㎕ 이상 **■용법용량** 이 약을 재구성하여 1 mL (이 약 100 mg)을 매 4주마다 상완, 허벅지, 또는 복부에 피하 주사 한다. **■사용상의 주의사항 1. 다음 환자에는 투여하지 말 것** 이 약인 주성분 또는 다른 성분에 과민 반응 병력이 있는 환자 **2. 유해 사례** 1) 24~ 52주 동안 수행된 3개인 무작위 배정, 위약 대조, 다기관 시험, 중증 호산구성 천식 임상 시험에서 총 1,327명이 시험(천식군)를 평가했다. 이 약은 4주마다 1회 피하 또는 정맥주사로 투여되었고, 이 중 26개월이 시험(천식군)이 이 약100 mg 피하주사)를 투여했다. 3 2건의 무작위 배정 위약 대조 임상 시험 시험 혼가 결과, 이 약100 mg 피하주사) 투여와 관련한 유해사례로 인두염, 감기도 감염, 비중증, 발열이 확인되었다. 1명이 넘는 시험(천식)에서 발생하고, 이 약을 투여한 시험군(n = 263)에서 위약군(n = 257)보다 더 높은 빈도로 발생한 중대한 유해사례로는 대상 포진이 있었다(각각 2명 vs. 0명). 이 약을 투여한 시험(천식)자의 약 2%, 위약을 투여한 시험(천식)자의 약 3%가 유해사례로 인해 임상시험을 중단하였다. 이 약100 mg 피하 주사)를 투여한 2개인 유증상 및 안전성 확증적 임상시험(메시15588 및 MEA115575) 첫 24주 동안 이 약 투여군에서 3% 이상 발생하고, 위약군보다 더 많이 발생한 유해사례는 두통, 주사 부위 반응, 인후, 피부감, 감기, 요로감염, 상복부 통증, 가려움증, 습진, 근육경련이었다. **3. 일반적 주의** 1) 이 약은 다른 중증 호산구성 천식의 치료에 사용해서는 안 된다. 이 약을 급성 기관지 경련 또는 천식 지속 상태의 치료에 사용하지 않는다. 이 약으로 치료하는 동안 천식과 관련된 이상반응 또는 악화가 발생할 수 있다. 3) 이 약 투여 후 과민 반응을 포함한 급성 및 지연성 잔소반응이 발생했다. 과민 반응 발생 시, 이 약 투여를 중단해야 한다. 4) 이 약으로 치료 시작 시, 전신 또는 흡입 코르티코스테로이드 투여를 갑자기 중단하면 안 되며, 필요한 경우 이 약으로 치료하는 동안 서서히 감량해야 한다. 5) 기생충 감염 환자는 이 약을 투여하기 전에 기생충 감염증을 치료해야 한다. 환자가 이 약으로 치료하는 동안 감염되고 합 기생충 치료에 반응하지 않을 경우, 이 약의 일시적인 투여 중단을 고려해야 한다. **4. 임부 및 수유부에 대한 투여** 1) 임부: 임부를 대상으로 이 약을 사용한 적절하고 잘 통제된 임상 시험은 수행되지 않았다. 동물 실험 치료를 근거로, 이 약은 발달 이상인 위험을 증가시킬 것으로 예측되지 않는다. 동물 시험 시험이 함상 시험에서의 반응을 예측할 수 있는 것은 아니기 때문에 임신 기간 동안 이 약은 절대적 유익성이 태아에 대한 잠재적 위험성을 상회하는 경우에만 사용해야 한다. 2) 수유부: 사람에서 이 약이 모유 생산에 미치는 영향, 모유 내 존재 여부, 또는 유아에게 미치는 영향에 대한 정보는 없다. 그러나, 이 약은 사이노몰거스 원숭이의 유즙으로 분비되었다. 수유 중지 또는 약물인 투여 중단은 유아에 대한 모유 수유의 중요성과 모체에 대한 약물의 중요성을 고려하여 결정해야 한다. **5. 소아에 대한 투여** 소아18세 미만)에 대한 안전성 및 유효성은 확립되지 않았다. **6. 고령자에 대한 투여** 현재까지의 자료를 근거로, 고령 환자에 대한 이 약의 용량 조절은 필요하지 않으나, 일부 고령 환자에서 민감도가 더 클 가능성은 배제할 수 없다. **■최종허가 변경일** 2019.09.30 이 개정 이후 변경된 내용 및 제품 정보 전문은 kr.gsk.com에서 확인하실 수 있습니다. GSK 제품 사용 중 발생한 이상사례(부작용)는 080~901~4100 또는 kr~medical.drug~safety@gsk.com으로 보고해 주시기 바랍니다.

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누칼라 주
(메폴리주맙, 유전자재조합)

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[제품명] 브론패스정 **[성분·함량]** 이 약 396.4mg 중 숙지황·목단피·오미자·천문동·황금·행인·백부근연조엑스(1.4~1.7→1)·옥수수전분 혼합건조물(4.8:1) 300 mg (별규) **[성상]** 연녹색의 타원형 필름코팅 정제 **[효능·효과]** 급성 기관지염 **[용법·용량]** 성인 1회 1정, 1일 2회 복용 **[사용상의 주의사항]** 1. 다음 환자에는 투여하지 말 것 1)신생아 2)임부 또는 임신 가능성 여성 3)수유부 4)이 약 구성 성분에 과민증 있는 환자 2. 다음 환자에는 신중히 투여할 것 1)만 65세 이상 고령자 2)전신적 항생제 치료가 요구되는 호흡기 및 전신 감염 환자 3)폐 악성종양, 중증 폐질환 환자 4)악성종양, 중증 중추신경계 질환, 심혈관계, 내분비계에 중대한 장애 환자 5)중증 간 기능, 신기능 이상 환자 6)황색 5호(Sunset Yellow FCF) 알레르기 병력 환자 3. 이상반응: 급성기관지염 환자를 대상으로 다기관, 무작위배정, 이중눈가림, 활성군대조 (대조약: 펠라고니움시도이데스11% 에탄올추출물(1→8~10)·말토덱스트린혼합물(1:4.56)), 평행설계, 제3상 임상시험에서 평가한 결과, 시험군 5.69%(7/123명, 9건) 및 대조군 3.25%(4/123명, 5건)에서 이상 사례가 발생하였으며, 군 간 통계적으로 유의한 차이를 나타내지 않았다. 이 기간 중 1% 이상 흔하게 환자에서 보고된 이상 사례는 관찰되지 않았다. 이 약과 인과관계를 배제할 수 없는 약물 이상반응은 변비 1건, 소화불량 1건, 위식도역류성 질환 1건, 혀의 발진 1건, 알라닌아미노전이효소 증가 1건, 아스 파르테이트아미노전이효소 증가 1건, 가슴 두근거림 1건 및 두드러기 1건이었으며 모두 경증으로 나타났다. **[저장방법]** 기밀용기, 실온(1~30˚C)보관 **[사용기한]** 제조일로부터 36 개월 **[보험약가]** 183원/정 **[포장단위]** 30 정/병, 300 정/병

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ANNIVERSARY 10

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[효능·효과] 특발성폐섬유증의 치료 **[용법·용량]** 성인 : 이 약은 초기용량으로 1일 3회, 1회 1정을 식후에 경구 투여한다. 환자의 반응과 내약성에 따라 2주 간격으로 1회 1정씩 증량하여 1일 3회, 1회 3정까지 증량할 수 있다.
이 약 투여시 위장관계 이상반응이 나타날 경우 환자의 반응을 면밀히 관찰하고 용량 감량 또는 투여 중단을 고려한다. **기타 자세한 내용은 제품설명서를 참조하시기 바랍니다.

AAA 서튜러®
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MDR-TB ZERO

WITH GROUP A
TREATMENT SIRTURO®

WHO Group A[2]

Korea guideline
Group A[3]

Approved MDR-TB
reimbursement[1]

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전문의약품 | 최귀의약품

서튜러®정100밀리그램 [제품요약정보] [원료약품 및 그 분량] 이 약 1정(약 460.0mg) 중 베다퀼린푸마르산염(별규) 120.89mg (베다퀼린으로써 100mg) **[성상]** 흰색 내지 거의 흰색의 양면이 볼록한 원형 정제 **[효능・효과] 유효균종** 결핵균(Mycobacterium tuberculosis) **적응증** 성인(만 18세 이상) 및 청소년(만 12세 이상 18세 미만으로 체중 30kg 이상)의 다제내성 폐결핵에 대한 병용요법 **[용법・용량]** 이 약은 환자로부터 분리한 균주가 생체 외에서 감수성을 보인 적어도 3가지 이상의 약물과의 병용요법으로만 사용되어야 함. 생체 외 약물감수성 검사 결과를 이용할 수 없다면, 환자로부터 분리한 균주가 감수성을 보일 가능성이 있는 적어도 4가지 이상의 다른 약물과 병용하여 치료를 시작. **권장 용량** 제 1-2주: 1일 1회 400mg (100mg 4정). 제 3-24주: 일주일에 3회, 매 회 200mg (100mg 2정) (투여 간격은 최소 48시간 이상) **[사용상의 주의사항] 1. 경고** 1) 이 약과 기저약물을 24주 동안 병용 투여한 120주의 COVB 위약 대조 임상시험에서, 이 약 투여군에서 위약군 대비 사망 위험성 증가가 관찰됨. 이 약은 다른 효과적인 치료 요법을 제공할 수 없을 경우에 사용. 2) 이 약의 투여로 QT간격 연장이 발생할 수 있음. QT간격을 연장시키는 다른 약물과의 병용은 QT연장 상가효과를 일으킬 수 있음. **2. 투여 금기** 갈락토오스 불내성(galactose intolerance), Lapp 유당분해효소 결핍증(Lapp lactase deficiency) 또는 포도당-갈락토오스 흡수장애(glucose-galactose malabsorption) 등의 유전적인 문제가 있는 환자 **3. 이상반응** 대조 임상시험에서 이 약 투여군에서 가장 빈번하게 발생한 약물이상반응(>10.0%)은 오심, 관절통, 두통, 구토 및 어지러움이었음. **[저장방법]** 차광기밀용기, 실온보관 (1~30℃) **[수입판매원]** ㈜ 한국안센 **[최근변경일]** 2021년 5월 24일

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■ 원료약품 및 분량: 1회 분무량 중 베클로메타손디프로피오네이트(EP) 100㎍, 푸마르산포르모테롤이수화물(EP) 6㎍ ■ 효능・효과: 1. 지속성 기관지 확장제와 흡입용 코르티코스테로이 드의 병용요법이 적절하다고 판단된 천식의 치료. 2. 정기적인 지속성 기관지 확장제 치료에도 불구하고 반복적 악화 이력이 있는 중증 만성폐쇄성폐질환 환자의 증상 치료 ■ 용법・용량: 1. 천식 1) 유지요법: 성인 1회 1~2번을 1일 2회 흡입, 1일 최대 4회 2) 증상완화법을 포함한 유지요법 ① 유지요법으로 사용하고, 증상완화를 위하여 필요시 추가 흡입한다. ②충분히 조절되지 않고 증상완화요법이 필요한 환자, 과거 의료적 개입이 요구되는 천식악화를 경험한 환자에서 특히 고려된다. ③추천 용량: 성인 1회 1번, 1일 2회(아침1회, 저녁 1회) 흡입, 필요시 추가적으로 1회 흡입하고 증상이 몇 분 후에도 지속되면 추가적인 흡입이 요구된다.(1일 최대 8회) 2. 만성폐쇄성폐질환 1) 성인: 1회 2번을 1일 2회 흡입한다. 2) 소아: 18세 미만의 소아에 대한 이 약의 안전성 및 유효성은 확립되지 않았다. 3) 고령자: 고령자에서 투여량을 조절할 필요가 없다. 4) 간장애 또는 신장애 환자: 간장애환자 또는 신장애 환자에서 이 약의 사용에 대한 자료는 없다. 그러나, 포르모테롤푸마르산염이수화물은 주로 간의 대사를 받으므로 중증의 간경화 환자에게 투약할 경우에는 약물의 노출이 증가될 수 있다. ■ 사용상의 주의사항: 1. 다음 환자에는 투여하지 말 것 1) 이 약의 성분에 대하여 과민증의 기왕력이 있는 환자 2. 다음 환자에는 신중히 투여 할 것 1) 이전의 전신 스테로이드 요법으로부터 부신기능이 손상된 것으로 생각되는 환자 2) 심혈관계 질환 환자 3) QTc 간격이 연장된 환자 4) 갑상선중독증 환자 5) 당뇨병 및 그 병력이 있는 환자 6) 크롬친화성세포종 환자 7) 치료되지 않은 저칼륨혈증 환자 8) 폐결핵 환자 3. 일반적 주의 1) 치료 중단 시에는 용량을 점차적으로 줄이는 방법이 추천된다. 2) 갑작스러운 또는 점차적인 천식조절의 악화 시에는 흡입용 혹은 경구용 코르티코스테로이드를 증가하거나, 감염이 의심되는 경우에는 항생제 추가를 고려한다. 3) 천식증상 악화기에 투여를 시작해서는 안된다. 4) 증상이 없을 때에도 매일 흡입하며 증상이 잘 조절되면 감량을 고려한다. 5) 운동전 사용과 같은 예방적 차원으로 사용할 수 없다. 6) 고용량을 장기간 연용한 환자에서 쿠싱증후군, 쿠싱양 용모, 부신억제, 소아 및 청소년에서의 성장지연, 골 무기질 밀도 감소, 백내장, 녹내장 등이 발생할 수 있다. 7) 구강인두 칸디다증의 위험을 최소화하기 위해 흡입 후 양치를 하거나 물로 입을 헹궈준다. 8) 전신 및 국소 코르티코스테로이드 사용으로 시력장애가 보고될 수 있다. 환자에게 시야흐림 또는 기타 시력장애와 같은 증상이 나타날 경우, 환자를 안과의사에게 보내어 백내장, 녹내장 또는 전신 및 국소 코르티코스테로이드 사용 후 보고된 중심장액맥락망막병(CSCR)과 같은 희귀질환을 포함하여 발생 가능한 원인 평가를 고려해야 한다. ■ 저장방법: 기밀용기, 냉장보관(2~8℃)(포스터 100/6 HFA), 실온보관(1~30℃) (포스터 넥스트할러) ■ 포장단위: 1통(120회)

[Prescribing Information] 포스터 200/6 HFA (베클로메타손디프로피오네이트/포르모테롤푸마르산염수화물)
■ 원료약품 및 분량: 1회 분무량 중 베클로메타손디프로피오네이트(EP) 200㎍, 포르모테롤푸마르산염수화물(EP) 6㎍ ■ 효능・효과: 지속성 기관지 확장제와 흡입용 코르티코스테로이드의 병용요법이 적절하다고 판단된 천식의 치료 ■ 용법・용량: 18세 이상의 성인 및 노인: 1회 2번을 1일 2회 경구 흡입한다. 1일 최대 흡입횟수는 4번이다. 이 약은 천식의 초기치료용은 아니며 용량은 질환의 중증도에 따라 개인별로 조절해야 한다. 이는 치료의 시작 시기뿐 아니라 용량 조절 시기에도 고려되어야 한다. 만일 환자 개개인이 복합제로서 가능한 용량 이외의 복합 용량을 필요로 하는 경우 개개 성분의 흡입제에 의한 적절한 용량의 (β2-효능약)이나 코르티코스테로이드를 처방하여야 한다. ■ 사용상의 주의사항: 1. 다음 환자에는 투여하지 말 것 1) 이 약의 성분에 대하여 과민증의 기왕력이 있는 환자 2. 다음 환자에는 신중히 투여 할 것 1) 이전의 전신 스테로이드 요법으로부터 부신기능이 손상된 것으로 생각되는 환자 2) 심혈관계 질환 환자 : 심장부정맥, 3도 방실차단, 빈맥, 특발성 대동맥판하부 협착증, 비후성 폐쇄성심근병증, 중증 심장질환, 급성 심근경색, 허혈성 심장질환, 울혈성 심부전, 폐쇄성 혈관질환, 동맥경화증, 중증심부전, 중증동맥고혈압 및 동맥류 등 심혈관계 질환의 병력이 있는 환자 3) QTc 간격이 연장된 환자 : 포르모테롤 자체가 QTc 간격 연장을 일으킬 수 있다. 4) 갑상선중독증 환자 5) 당뇨병 및 그 병력이 있는 환자 : 포르모테롤 투여가 혈당 증가를 유발할 수 있으므로, 당뇨병 환자에서는 혈당을 모니터링하여야 한다. 6) 크롬친화성세포종 환자 7) 치료되지 않은 저칼륨혈증이 나타날 수 있다. 이러한 작용은 저산소증 또는 잔틴유도체, 스테로이드나 이뇨제의 병용 투여에 의해서 악화될 수 있으며, 기관지 확장제의 구제 요법을 수반하는 불안정형 천식환자에 있어서도 주의가 필요하다. 이러한 환자에서는 혈중 칼륨농도를 모니터링하여야 한다. 8) 폐결핵 환자 : 크르티코스테로이드를 함유하는 다른 흡입제와 마찬가지로, 활동성 또는 비활동성 폐결핵 환자, 진균성 또는 바이러스성 기도감염 환자에는 이 약을 신중하게 투여한다. ■ 저장방법: 2~8 ℃에서 냉장보관하며, 투여사작 후에는 25 ℃이하에서 보관 시 최대 3개월까지 사용이 가능하다. ■ 포장단위: 1통 (120회) ■ 판매원: 코오롱제약 ■ 제조자: Chiesi

※제품에 대한 자세한 정보는 www.kolonpharm.co.kr에서 확인하실 수 있습니다.

[Reference]
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Brief Specificaion

제품 기능 및 모드 : HF 기능, CPAP 모드, bi-level 모드

모니터링 값

HF & NIV – Flow rate, FiO_2, SpO_2, RR, PR, S/F ratio, PI 및 가습관련 온도

NIV only – PIP, PEEP, Vt est

가습 온도 설정 범위

HF 기능: 34 ℃부터 37 ℃

CPAP & bi-level 모드: 꺼짐, 31 ℃부터 37 ℃

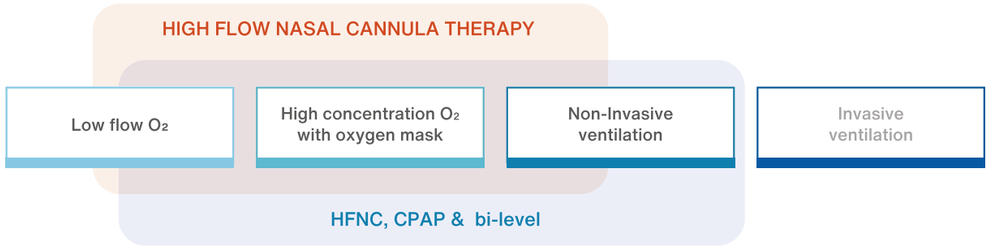
전력 소비량 : 350 VA Max.

배터리 동작 시간 : 배터리 100% 기준, 최소 30 분 이상

제품 크기 : 21.4 x 33.8 x 21.9 (Width x Depth x Height) cm

제품 무게 : 5.8 kg

All levels of respiratory patient acuity



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MEK

Reference. 1. 키트루다 허가사항 : 식품의약품안전처

키트루다®주 (펨브롤리주맙) 100 mg [효능 · 효과] 흑색종: 1. 수술이 불가능하거나 전이성인 흑색종의 치료 2. 완전 절제술을 받은 림프절 침범을 동반한 흑색종의 수술 후 보조요법(adjuvant) 치료 **비소세포폐암:** 1. EGFR 또는 ALK 변이가 없는 전이성 비편평 비소세포폐암 환자에서의 1차 치료로서 백금-피록시 및 백금 화학요법과의 병용 요법 2. 전이성 편평 비소세포폐암 환자에서의 1차 치료로서 백금함유 및 파클리탁셀/nab-로 알부민 결합 파클리탁셀과의 병용 요법 3. PD-L1 발현 양성(Tumor Proportion Score(TPS) ≥50%)으로서, EGFR 또는 ALK 변이가 없는 전이성 비소세포폐암 환자에서의 1차 치료 4. PD-L1 발현 양성(TPS ≥1%)으로서, 백금 기반 화학요법을 치료 도중 또는 이후에 진행이 확인된 전이성 비소세포폐암의 치료. 다만 EGFR 또는 ALK 변이가 확인된 환자는 이 약을 투여하기 전에 이러한 변이에 대한 승인된 치료제를 투여한 후에도 질병이 진행이 확인된 경우에 한함 **두경부암:** 1. 전이성 또는 수술이 불가능한 재발성 두경부 편평상피세포암 환자에서 1차 치료로서 PD-L1 발현 양성(CPS ≥1)인 환자에서의 단독 요법, 백금 및 플루오로우라실(5-FU) 화학요법과의 병용 요법 2. PD-L1 발현 양성(TPS ≥50%)으로서, 백금 기반 화학요법에 치료 도중 또는 이후에 진행이 확인된 전이성 또는 수술이 불가능한 재발성 두경부 편평상피세포암의 치료로서 단독 요법 **전립선 호지킨 림프종:** 3가지 표준요법에 치료 실패(refractory) 또는 재발(relapse)한 고위험 B-세포 전립선 호지킨 림프종 성인 환자의 치료 **요로상피암:** 1. PD-L1 발현 양성(Combined Positive Score(CPS) ≥10)에 대한 요로상피암 또는 전이성 요로상피암의 치료 2. 백금 기반 화학요법에 치료 도중 또는 이후에 진행이 확인되거나, 백금 기반의 수술 전 보조요법(neoadjuvant) 또는 수술 후 보조요법(adjuvant) 처른 12개월 이내에 진행이 확인된 국소 진행성 또는 전이성인 요로상피암의 치료 3. 방광 절제술이 불가능하거나 시행을 선택하지 않으며, 뮤어톡 유두암 상관없이 섬유화형을 동반한 BCG-불응 고위험 비근침습성 방광암의 치료 **식도암:** PD-L1 발현 양성(CPS ≥10)으로서, 수술이 불가능한 국소 진행성 또는 전이성 식도접합부 또는 HER-2 음성인 위식도 접합부 선암(병변의 중심(epicenter)이 위식도 접합부 1-5 cm 위에 위치) 환자에서 1차 치료로서 백금 및 플루오로우라실기반 기반 화학요법과의 병용 요법 **신세포암:** 1. 진행성 신세포암 환자에서의 1차 치료로서 액시티닙과의 병용 요법 **자궁내막암:** 이전의 전신 요법 이후 진행이 확인되고 수술적 치료 또는 방사선 치료가 부적합한, 고빈도-현미부수체 불안정성(MSI-H, microsatellite instability high) 또는 불일치 복구 결함(dMMR, mismatch repair deficient)이 없는 진행성 자궁내막암 치료로서 렌바티닙과의 병용 요법 **고빈도-현미부수체 불안정성(MSI-H)암:** 이전의 치료를 받은 후 진행성으로 다른 standard 대체 치료 옵션이 없는, 고빈도-현미부수체 불안정성(dMMR) 또는 불일치 복구 결함(dMMR)을 나타내며 수술이 불가능하거나 전이성인 자궁내막암, 위암, 소장암, 난소암, 태장암, 담도암 환자의 치료 **고빈도-현미부수체 불안정성(MSI-H) 직결암종:** 고빈도-현미부수체 불안정성(MSI-H) 또는 불일치 복구 결함(dMMR)을 나타내며 수술이 불가능하거나 전이성인 직결암임 환자의 치료로서 수술 전 보조요법(neoadjuvant)으로 항암화학요법과의 병용 요법 **[효능 · 용법]** 1. 고형암 치료 성인용량 권장량 환자의 치료로서 수술 전 보조요법(neoadjuvant)으로 항암화학요법과의 병용 요법 그리고 이후에 수술 후 보조요법(adjuvant)으로 단독 요법 2. PD-L1 발현 양성(CPS≥ 10)이며, 수술이 불가능한 국소 재발성 또는 전이성 편평암종 환자의 치료로서 항암화학요법과의 병용 요법 **[용량 · 용법]** 이 약 200 mg을 3주마다 30분 동안 정맥 주입한다. 선행적 요지간 림프절 D1 절제술 이후의 (수 약) 권장용법은 2 mg/kg(최대 200 mg)으로 투여한다. 병용 요법으로 투여하기 위해서는 해당 항암 약제의 처방정보를 참조한다.(사용상의 주의사항 14. 임상시험 참보 항 참고) 이 약을 첨액주사용 희석액(염화제 병용하여 투여하는 경우 이 약이 연지 투여되어야 한다. 그러한 조기 상중전성 유방암에서 수술 전 보조요법으로 항암화학요법과 병용하여 3주마다 200mg 8회 또는 매 6주마다 400mg 4회 투여한다. 수술 후 보조요법으로 이약을 매 3주마다 200mg 9회 또는 매 6주마다 400mg 5회 투여한다. **[금기] 다음 환자에는 투여하지 말 것** 이 약 및 그 구성 성분에 과민증은 환자 **[신중투여] 다음 환자에는 신중히 투여할 것** 자가면역질환이 있거나 면역억 제 제를 처기한적있는 환자 **[약물상호작용] 1) 임상시험에서 보고된 이상사례** 대조 및 비대조 임상시험에서 총 2799명을 대상으로 이 약의 안전성을 분석하였다. 치료 기간의 중앙값은 4.2개월(범위: 1일 ~ 30.4개월)이었고, 6개월 이상 치료받은 환자는 1153명, 1년 이상 치료 받은 환자는 600명이었다. 환자의 5%가 치료 관련 약물이상반응으로 이 약 투여를 중지하였다. 최종 투여 후 90일째까지 보고된 치료 관련 중대한 이상사례(SAE)는 이 약을 투여 받은 환자와 10%에서 발생하였다. 발현한 치료 관련 중대한 이상사례 중 가장 흔하게 발생한 이상사례는 다음과 같다: 폐렴증, 결장염, 설사, 발열,

ICS/LABA 병용으로 적절히 조절되지 않는 성인 천식의 유지치료 *1

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*ICS/LABA로 적절히 조절되지 않는 3,092명의 천식 환자를 대상으로 한 52주 무작위 연구(중간용량 에너제어® 브리즈헬러® n=620; 고용량 에너제어® 브리즈헬러®, n=619; 중간용량 MF/IND, n=617; 고용량 MF/IND, n=618; 고용량 FLU/SAL, n=618).[2] 중간용량 및 고용량의 에너제어® 브리즈헬러®는 26주차에 상응하는 양의 MF/IND 대비 trough FEV_1을 각각 + 76mL (95 % CI : 41, 111) 및 + 65mL (95 % CI : 31, 99) 치료 차이로 유의하게 향상시켰습니다 (p <0.001, superiority, 1차 평가변수).[2] 26주차에 MF/IND 대비 ACQ-7 점수의 개선은 충족되지 않았습니다. 그러나 5개 치료군 모두에서 베이스라인 대비 임상적으로 의미있는 ACQ-7 점수의 개선을 보여주었습니다 (2차 평가변수).[2]

ACQ-7, Asthma Control Questionnaire-7; CI, confidence interval; FEV_1, forced expiratory volume in one second; FLU, fluticasone; ICS, inhaled corticosteroids; IND, indacaterol; LABA, long-acting beta2-agonist; MF, mometasone furoate; LAMA, long-acting muscarinic antagonist; SAL, salmeterol.

Product Information

에너제어® 흡입용캡슐 150/50/80 마이크로그램
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The variety of values[1-8]

ONCE DAILY **SINGULAIR®** (montelukast sodium)

- Prescribed in over 100 countries since FDA approval in 1998[1,2]
- Established long term safety profile[3,a,*,†], Original Montelukast[4]
- Proven effectiveness in patients with pediatric asthma[5,b,‡], elderly asthma[6,c,#], cough variant asthma[7,d,¶]

† **[Primary endpoint result (overall incidence of clinical and laboratory adverse events after ≥200-week treatment)]** montelukast group, both adult and paediatric (n=1,955) was similar compared to placebo group (n=1,180).[3] ‡ **[Primary endpoint result (overall satisfaction of children and parents after the 6-month treatment)]** montelukast group (n=83) showed a significantly higher score than inhaled beclomethasone group (n=41; p=0.001 and p=0.049, respectively).[5] # **[Primary endpoint result (Rate of patients who reached well-controlled asthma status after the 12-week treatment)]** Montelukast to lose-dose inhaled budesonide group, 36.9% (n=24/65) vs. increasing the dose of inhaled steroid group, 34.9% (n=22/63).[6] ¶ **[Primary endpoints result (Change of pulmonary function after the 4-week montelukast treatment)]** The cough VAS, Sputum eosinophil count, cough sensitivity were significantly decreased (p=0.0008, p=0.013 and p=0.007(C2)/p=0.039(C5), respectively). whereas, pulmonary function, airway responsiveness and sputum mediator levels remained unchanged (n=23).[7]

FDA : Food and Drug Administration
*Over 200 weeks (Adults 4.1 years, Pediatric patients 1.8 years)[3]

Study design a. A pooled analysis of safety data from 11 multicentre, randomized, controlled montelukast Phase IIb and III trials and five long-term extension studies were performed. A total of 3,386 adult patients (aged 15-85 years) and 336 paediatric patients(aged 6-14 years) were enrolled in the trials; 2031 adults received 2-200 mg montelukast once daily up to 4.1 years and 257 children received montelukast 5-mg chewable tablet up to 1.8 years. Summary statistics comparing incidences of adverse events among treatment groups were calculated.[3] **b.** The randomized, multicenter, open-label, 6-month extension study of a base study which was randomized, multicenter, open-label crossover for 266 asthmatic children of 6 to 11 years of age in 10 weeks compared once-daily montelukast 5 mg chewable tablets (n=83) with inhaled beclomethasone 100 mcg three times daily (n=41) in terms of safety, FEV_1, parent and patient satisfaction with treatment, asthma related medical resource utilization, school absenteeism, and parental work loss. Eligible children were evaluated in the clinic prior to re-randomization (Month 0) and at regular visits at 1, 3, and 6 months during the extension.[5] **c.** An open-label, multicenter, randomized, prospective trial was conducted in Korea. Asthma patients over 60 years of age who had been diagnosed with asthma more than 6 months before enrollment in the study based on clinical symptoms. Inhaled budesonide at 400 μg/day was given during the 4-week run-in period, following which 140 subjects were randomized to take either 800 μg of inhaled budesonide (n=63) or 400 μg of budesonide plus 10 mg of montelukast (n=65) per day for the 12-week treatment period. The primary endpoint was the proportion of subjects reaching "well-controlled asthma" after the 12-week treatment period based on the GINA guidelines.[6] **d.** This prospective observational study examined the effect of montelukast (10 mg) daily for 4 weeks in 23 consecutive nonsmoking adults with anti-inflammatory treatment-naive cough variant asthma (CVA). 23 patients were evaluated, before and after treatment, the cough visual analogue scale (VAS), pulmonary function (spirometry and impulse oscillation), methacholine airway responsiveness, cough receptor sensitivity, expressed by the concentration of capsaicin inducing 2 or more (C2) and 5 or more (C5) coughs, sputum eosinophil counts and levels of inflammatory mediators, including cysteinyl leukotrienes, leukotriene B_4, prostaglandin (PGD_2, PGE_2, PGF_2 and thromboxane B_2).[7]

References 1. FDA approval drugs. Available at <http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&ApplNo=020829> accessed Mar. 04, 2022. **2.** Merck Consumer Care. FDA advisory committee briefing document; NDA 204-804 Singulair® Allergy (montelukast sodium) 10 mg tablets. May 2, 2014. **3.** Storms W, *et al.* Clinical safety and tolerability of montelukast, a leukotriene receptor antagonist, in controlled clinical trials in patients aged 6 years. *Clinical and Experimental Allergy*. 2001;31:77-87. **4.** MFDS. Pharmaceutical Integrated Information System-Medicine Patent Information. "Active ingredient Montelukast sodium, Classification code 149" Available at <https://nedrug.mfds.go.kr/searchPatent?page=1&searchYn=true&itemName=%EC%9B%B1%EA%B7%A4%EB%A0%88%EC%96%B4&mainIngr=&itemSeq=&patentNo=&dtStart=&dtEnd=&deleteYn=> Accessed Mar. 04, 2022. **5.** Maspero JF, *et al.* Oral Montelukast Versus Inhaled Beclomethasone in 6- to 11-year-old Children with Asthma: Results of an Openlabel Extension Study Evaluating Long-term Safety, Satisfaction, and Adherence with Therapy. *Curr Med Res Opin*. 2001;17(2):96-104. **6.** Ye YM, *et al.* Addition of Montelukast to Low-Dose Inhaled Corticosteroid Leads to Fewer Exacerbations in Older Patients Than Medium- Dose Inhaled Corticosteroid Monotherapy. *Allergy Asthma Immunol Res*. 2015 Sep;7(5):440-8. **7.** Takemura M, *et al.* Clinical, physiological and anti-inflammatory effect of montelukast in patients with cough variant asthma. *Respiration*. 2012;83(4):308-15. **8.** MFDS. SINGULAIR Prescribing information.

SINGULAIR® Selected safety information [Indication and usage] 1) Prophylaxis and chronic treatment for asthma 2) the relief of symptoms of seasonal and perennial allergic rhinitis **[Dosage and administration]** SINGULAIR should be taken once daily. For asthma, SINGULAIR should be taken in the evening. For Allergic rhinitis, time of administration may be individualized to suit patient needs. Patients with both asthma and allergic rhinitis, should take only one SINGULAIR dose daily in the evening. 1) 10 mg tabletsadults and adolescents 15 years of age and older) : once daily 10 mg oral administration 2) Chewable tablet : 5 mg(pediatric patients 6 to 14 years of age), 4 mg(pediatric patients 2 to 5 years of age), once daily 1 hour before meals or 2 hours after meals. 3) 4 mg oral granules : for asthma, pediatric patients 2 to 5 years of age, once daily 4 mg oral administration; 12 to 23 months of age once daily 4 mg in the evening oral administration. Safety and effectiveness in pediatric patients younger than 12 months of age with asthma have not been established. For allergic rhinitis, pediatric patients 2 to 5 years of age and 6 to 23 months of age, 4 mg once daily oral administration. Safety and effectiveness in pediatric patients younger than 2 years of age with seasonal allergic rhinitis have not been established. Safety and effectiveness in pediatric patients younger than 6 months of age with perennial allergic rhinitis have not been established. SINGULAIR can be administrated either directly in the mouth, dissolved in 1 teaspoonful (5 mL) of cold or room temperature baby formula or breast milk, or mixed with a spoonful of cold or room temperature soft foods. SINGULAIR is not intended to be dissolved in any liquid other than baby formula or breast milk for administration. However, liquids may be taken subsequent to administration. SINGULAIR can be administered without regard to the time of meals. **[Warnings and precautions]** 1) Serious neuropsychiatric events have been reported with use of SINGULAIR in the postmarket surveilance. These reports have been highly variable and included to agitation, aggressive behavior, anxiousness, insomnia, suicidal thoughts and behavior (including suicide) and so on. SINGULAIR-associated NP events are currently not well understood. Discuss the benefits and risks of SINGULAIR use with patients and caregivers when prescribing SINGULAIR. Advise patients and/or caregivers to be alert for changes in behavior or for new NP symptoms when taking SINGULAIR. If changes in behavior are observed, or if new NP symptoms or suicidal thoughts and/or behavior occur, advise patients to discontinue SINGULAIR and contact a healthcare provider immediately. In many cases, symptoms resolved after stopping SINGULAIR therapy; however, in some cases symptoms persited after discontinuation of SINGULAIR. Continue to monitor and provide supportive care until symptoms revise. 2) As each 4, 5 mg chewable SINGULAIR tablet contains aspartame which metabolized to phenylalanine, hereditary disease phenylketonuric patients who needs to regulate the intake of phenylalanine, should be limited in administration and adjusted the daily intake of aspartame below the WHO recommended dose (40 mg/kg/day)(minimum amount as possible) **2. Contraindication** 1) Hypersensitivity to any component of this product. 2) SINGULAIR 10 mg contains lactose. Patients with genetic problem such as galactose intolerance, Lapp lactase deficiency or glucose-galactose malabsorption should not take this product. **3. Adverse Reactions** 1) In placebo-controlled clinical trials for approximately 2950 adult and adolescent patients 15 years of age and older, the following adverse experiences reported with SINGULAIR occurred in greater than or equal to 1% of patients and at an incidence greater than that in patients treated with placebo: [Body as a whole] Asthenia/Fatigue(1.8 vs. placebo 1.2), Fever(1.5 vs. placebo 0.9), Abdominal pain(2.9 vs. placebo 2.5), Trauma(1.0 vs. placebo 0.8), [Digestive system] Dyspepsia(2.1 vs. placebo 1.1), Infectious gastroenteritis(1.5 vs. placebo 0.5), Dental pain(1.7 vs. placebo 1.0) [Nervous system] Dizziness(1.9 vs. placebo 1.4), Headache(18.4 vs. placebo 18.1), [Respiratory system] Nasal Congestion(1.6 vs. placebo 1.3), Cough(2.7 vs. placebo 2.4), Influenza(4.2 vs. placebo 3.9) [Skin/Skin Appendages] Rash(1.6 vs. placebo 1.2), [Laboratory adverse experiences] ALT increased(2.1 vs. placebo 2.0), AST increased(1.6 vs. placebo 1.2), Pyuria(1.0 vs. placebo 0.9). 2) SINGULAIR 5 mg has been evaluated for safety in 476 pediatric patients 6 to 14 years of age in double blind 8 weeks clinical trial. (Cumulatively, 289 pediatric patients were treated with SINGULAIR for at least 6 months, and 241 for one year or longer in clinical trials.) The safety profile of SINGULAIR in this trial was generally similar to the adult safety profile. Although the relationship with administered drug is not clear, the adverse events occurred with a frequency ≥2% and more frequently than in pediatric patients who received placebo are as follows: pharyngitis, influenza, fever, sinusitis, nausea, diarrhea, dyspepsia, otitis, viral infection, and laryngitis. 3) SINGULAIR 4 mg has been evaluated for safety in 573 pediatric patients 2 to 5 years of age in single- and multiple-dose studies. Cumulatively, 426 pediatric patients 2 to 5 years of age were treated with SINGULAIR for at least 3 months, 230 for 6 months or longer, and 63 patients for one year or longer in clinical trials. In clinical trials, SINGULAIR 4 mg once daily at bedtime is generally well tolerated. In pediatric patients receiving SINGULAIR, the following events occurred with a frequency ≥2% and more frequently than in pediatric patients who received placebo: fever, cough, abdominal pain, diarrhea, headache, rhinorrhea, sinusitis, otitis, influenza, rash, ear pain, gastroenteritis, eczema, urticaria, varicella, pneumonia, dermatitis, and conjunctivitis. 4) SINGULAIR has been evaluated for safety in 175 pediatric patients 6 to 23 months of age. The safety profile of SINGULAIR in a 6-week, double-blind, placebo-controlled clinical study was generally similar to the safety profile in adults and pediatric patients 2 to 14 years of age. SINGULAIR 4 mg once daily at bedtime is generally well tolerated. Regardless of the relationship with drug, the following events occurred with a frequency ≥2% and more frequently than in pediatric patients who received placebo: upper respiratory infection, wheezing, otitis media, pharyngitis, tonsillitis, cough and rhinitis. 5) SINGULAIR has been evaluated for safety in 2199 adult and adolescent patients 15 years of age and older in placebo controlled clinical trials. SINGULAIR administered once daily in the morning or in the evening had a safety profile similar to that of placebo and generally well tolerated. As the relationship with administered drug is not clear, the following events were reported with SINGULAIR with a frequency ≥1% and at an incidence greater than placebo: upper respiratory infection(1.9% of patients receiving SINGULAIR vs. 1.5% of patients receiving placebo). The incidence of somnolence was similar to that of placebo in all studies. 6) SINGULAIR has been evaluated in 280 pediatric patients 2 to 14 years of age in a 2-week, multicenter, double-blind, placebo-controlled, parallel-group safety study. SINGULAIR administered once daily in the evening had a safety profile similar to that of placebo and was generally well tolerated. Although the relationship with administered drug is not clear, the following events occurred with a frequency ≥2% and at an incidence greater than placebo: headache, otitis media, pharyngitis, and upper respiratory infection. 7) SINGULAIR has been evaluated for safety in 3357 adult and adolescent patients 15 years of age and older with perennial allergic rhinitis in 5622 reviewed SINGULAIR exposures in two, 6-week clinical studies. SINGULAIR administered once daily had a safety profile consistent with that observed in patients with seasonal allergic rhinitis and similar to that of placebo. Although the relationship with drug is not clear, the following events were reported with SINGULAIR with a frequency ≥1% and at an incidence greater than placebo: sinusitis, upper respiratory infection, sinus headache, cough, epistaxis, and increased ALT. The incidence of somnolence was similar to that of placebo. 8) The safety in patients 2 to 14 years of age with perennial allergic rhinitis is supported by the safety in patients 2 to 14 years of age with seasonal allergic rhinitis. The safety in patients 6 to 23 months of age is supported by data from pharmacokinetic and safety and efficacy studies in asthma in this pediatric population and from adult pharmacokinetic studies. 9) Integrated analysis of clinical trial results. In an integrated analysis of 41 placebo-controlled clinical trials including 9,929 patients receiving SINGULAIR and 7,780 patients receiving placebo, one suicide thinking in SINGULAIR group was reported. Any suicide, suicide actions and behavior is not reported in both group. In other 46 placebo-controlled trials, patients with behavioral-related adverse events (BRAEs) had a 2.73% odds ratio in the SINGULAIR group and 2.27% in the placebo group, with an odds ratio of 1.12 (95% CI [0.93-1.36]). 10) The following adverse reactions have been identified during post-marketing use of SINGULAIR. Upper respiratory infection, increased bleeding tendency, hypersensitivity (anaphylaxis, very rare hepatic eosinophilic infiltration), agitation including aggressive behavior or hostility, anxiousness, depression, disorientation, disturbance in attention, dysphemia, dream abnormalities, hallucinations, insomnia, memory impairment, obsessive-compulsive symptoms(including irritability, restlessness and uncontrolled muscle movements), somnambulism, suicidal thinking and behavior (including suicide), dizziness, somnolence, paraesthesia/hypoesthesia, very rare seizure convulsion, palpitation, epitaxis, diarrhea, dyspepsia, nausea, very rare pancreatitis, vomiting, increased ALT and AST, very rare cholestatic hepatitis, hepatocellular liver-injury, mixed-pattern liver injury, angioedema, bruising, erythema multiforme, erythema nodosum, pruritus, rash, urticarial, syndrome/toxic epidermal necrolysis, Stevens-Johnson syndrome, arthralgia, myalgia including muscle cramps, asthenia/fatigue, fever. Asthma patients who administered SINGULAIR may present with systemic eosinophilia and sometimes presenting with clinical features of vasculitis consistent with Churg-Strauss syndrome. 11) In 6 year post marketing experience including 1,635 patients for reevaluation in Korea, adverse events rate regardless of relationship with drug are 28 cases(1.7%) and 64 adverse events. Of these, 6 cases (0.37%) had 6 adverse events that could not exclude the relationship with this drug, including nausea (2 cases), edema, dyspepsia, alopecia, and pruritus. Alopecia is unpredictable adverse events reported in a pediatric patient. **4. Precautions** 1) SINGULAIR is not indicated for use in the reversal of bronchospasm in acute asthma attacks, including status asthmaticus. 2) Patients should be advised to have appropriate rescue medication available. 3) While the dose of inhaled corticosteroid may be reduced gradually under medical supervision, SINGULAIR should not be abruptly substituted for inhaled or oral corticosteroids. 4) Neuropsychiatric events have been reported with use of SINGULAIR. It has not been known these symptoms are related to this drug. 5) In patients with exercise-induced bronchoconstriction should not take SINGULAIR alone. 6) Patients with known aspirin sensitivity should not take aspirin or non-steroidal anti-inflammatory agents while taking SINGULAIR. 7) Eosinophilia. Revision date : 2021. 11. 30. ※**Before prescribing, please refer to the product manual for further details.**

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Start Strong* with Proven First-Line Efficacy[1,2]

비짐프로는 상피세포성장인자수용체(EGFR) 엑손 19 결손 또는 엑손 21 L858R 치환 변이가 있는 국소 진행성 또는 전이성 비소세포폐암(NSCLC) 환자에 1차 치료제로 국내 사용 승인되었습니다.[3]

비짐프로는 엑손 21 L858R 치환 변이가 있는 환자에서 게피티닙 대비 mOS를 유의하게 개선하였습니다.[1]
[HR=0.665 (95% CI 0.470–0.941;two-sided P = 0.0203)]

비짐프로는 EGFR exon 19 결손 또는 exon 21 L858R 치환 변이가 있는 진행성 NSCLC 아시아 환자에게 1L treatment option으로 고려될 수 있습니다.[4]

L858R

EGFR, epidermal growth factor receptor; NSCLC, non-small-cell lung cancer; 1L, first-line; mOS, median overall survival

[Study design] This study is an extended follow-up study of ARCHER 1050. The aim of this study is to update ad hoc OS analysis of ARCHER 1050 after an extended median follow-up of 47.9 months. In this multinational, multicenter trial, adults (aged ≥ 18 years or ≥ 20 years in Japan and Korea) with newly diagnosed NSCLC and EGFR mutation (exon 19 deletion or exon 21 L858R substitution), and no history of CNS metastases, were randomized 1:1 to receive gefitinib 45 mg/day (n= 227) or gefitinib 250 mg/day (n= 225). Randomization was stratified by race and EGFR mutation type. An ad hoc updated analysis of OS was conducted at the protocol-defined cut-off of 48 months from first dosing of the last enrolled patient [13 May 2019]. OS was significantly longer in the dacomitinib arm than in the gefitinib arm (HR: 0.748; 95% CI 0.591–0.947; two-sided P=0.0155); median OS was 34.1 months (95% CI 29.5–39.8) versus 27.0 months (95% CI 24.4–31.6).[1]

[Study design] The aim of this study is to compare the efficacy of dacomitinib and safety with that of the reversible EGFR tyrosine kinase inhibitor gefitinib in the first-line treatment of patients with advanced EGFR-mutation-positive NSCLC. In this international, multicentre, randomised, open-label, phase 3 study (ARCHER 1050), we enrolled adults [aged ≥ 18 years or ≥20 years in Japan and South Korea) with newly diagnosed advanced NSCLC and one EGFR mutation at 71 academic medical centres and university hospitals in seven countries or special administrative regions. We randomly assigned participants (1:1) to receive oral dacomitinib 45 mg/day (in 28-day cycles) or oral gefitinib 250 mg/day (in 28-day cycles) until disease progression or another discontinuation criterion was met.The primary endpoint was PFS assessed by masked independent review in the intention-to-treat population. Safety was assessed in all patients who received at least one dose of study treatment. Data cutoff date was July 29, 2016. Median duration of follow-up for PFS was 22.1 months (95% CI 20.3–23.9). Median progression-free survival according to masked independent review was 14.7 months (95% CI 11.1–16.6) in the dacomitinib group and 9.2 months (9.1–11.0) in the gefitinib group(HR 0.59, 95% CI 0.47–0.74; p<0.0001).[1]

[주요 안전성 정보*] 비짐프로®를 투여한 환자에서 흔하게 나타난 이상반응은 설사, 발진, 구내염, 손발톱 장애, 피부건조, 식욕감소, 결막염, 체중감소, 탈모, 가려움, 아미노전이효소 증가, 구역/의오, 손발톱 염증, 피부변조, 식욕감소였습니다

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[제품정보] 비짐프로®정 15mg, 30mg, 45mg **[유효성분]** 다코미티닙수화물 **[효능·효과]** 성피세포성장인자수용체(EGFR) 엑손 19 결손 또는 엑손 21 L858R 치환 변이가 있는 국소 진행성 또는 전이성 비소세포폐암(NSCLC) 환자에 1차 치료제로 투여 [용법·용량] 이 약은 투여는 항암제 사용 경험이 있는 의사에 의해 시작되고 감독 되어야 한다. 이 약 투여를 시작하기 전에 EGFR 변이상태가 확인되어야 한다. 1용량 이 약은 병의 진행 이나 수용 불가한 독성(unacceptable toxicity)이 발생하기 전까지, 권장용량으로 1일 1회 45mg을 경구투여한다. 매일 같은 시간에 복용하도록 환자에게 권고해야 한다. 환자가 구토하거나 복용을 건너 뛴 경우에는 추가용량을 투여해서는 안되며, 다음날 정해진 시간에 처방된 용량을 복용해야한다. 1) 용량조절 환자 개개인의 내약성과 안전성에 근거하여 용량조절이 필요할 수 있다. 2) 투여방법 이 약은 경구용이다. 정제는 물과 함께 삼켜야 하며, 음식물과 상관없이 투여할 수있다. 3) 간장애 환자 경증(Child–Pugh 등급 A), 중등도(Child–Pugh 등급 B) 간장애 환자에게 이 약을 투여 시 시작용량 조절은 필요치 않다. 중증(Child–Pugh 등급 C) 간장애 환자에게 이 약을 투여 시 시작용량은 1일 1회 30mg으로 조절해야 한다. 최소 4주간의 치료 후 개인의 안전성과 내약성에 근거하여 용량을 1일 1회 45mg으로 증량 할 수 있다. **[사용상의주의사항]** 1. 다음 환자에는 투여하지 말 것 1) 이 약의 주성분 또는 첨가제에 대한 과민증이 있는 환자 2) 이 약은 유당을 함유하고 있으므로, 갈락토오스 불내증(galactose intolerance), 총유당분해효소 결핍증(total lactose deficiency) 또는 포도당–갈락토오스 흡수장애(glucose–galactose malabsorption) 등의 유전적인 문제가 있는 환자에게는 투여하면 안 된다. 2. 일반적으로 1) EGFR 변이상태의 평가 환자의 EGFR 변이상태를 평가시, 위음성 또는 위양성결과를 피하기 위해 잘 검증되고 건고한 방법을 선택하는 것이 중요하다. 2) 설사 이 약 투여 중, 중증 설사를 포함한 설사가 매우 흔하게 보고되었다. 설사는 심장에 유익한 상관성이 될수를 초래할 수 있으며, 이는 적절히 치료되지 않으면 치명적일 수 있다. 이 약 투여 시작 후 2주 내에 설사의 첫 징후가 나타나며 대부분 시작한지 4주째에 주어짐. 환자에게 이 약을 투여하기 전에 적절한 예방적 치료법(예: 로페라미드)를 투여하고, 정상관련 처기된 최고용량 용량까지 증량한다. 이 약의 투여중단 및/또는 용량감소가 필요할 수 있다. 환자들은 적절한 경구 수분공급이 유지되어야 하고, 탈수 환자에게는 정맥내 수액과 전해질 투여가 필요할 수 있다. 3) 피부관련 이상반응 이 약을 투여받은 환자에서 발진, 홍반성 및 박탈성 피부염이 보고되었다. 피부건조를 예방하기 위해 보습제로 치료를 시작하고, 발진이 나타나면 국소항생제, 피부연화제 및 국소스테로이드 처치를 시작한다. 박탈성피부 환자에게는 경구항생제와 국소스테로이드를 시작한다. 이들 중 어느 것이라도 중증도 2등급 이상으로 악화되면 광범위 경구 또는 정맥투여 항생제와 추가를 고려한다. 햇볕에 노출되는 부위에는 발진, 홍반성 및 박탈성 피부가 나타나기나 악화될 수 있다. 햇빛에 노출 전, 환자에게 보호복과 자외선차단제 사용을 권고한다. 환자들에서 이 약의 투여중단 및/또는 용량감소가 필요할 수 있다. 4) 간독성 및 아미노전이효소 증가 이 약을 투여하는 동안 아미노전이효소 증가(알라닌 아미노전이효소 증가, 아스파르테이트 아미노전이효소 증가, 아미노전이효소 증가)가 보고되었다. 매일 이 약 45 mg을 투여받은 NSCLC환자들 중, 4명의 환자(1.6%)에서 간독성이 보고되었다. 이 약 프로그램 전반에 걸쳐, 1명의 환자에서 치명적 간부전의 있었다. 따라서, 주기적인 간기능검사가 권장된다. 이 약을 투여하는 동안 아미노전이효소 상승이 나타나 경우, 투여를 중단해야한다. 5) 시토크롬 P450 (CYP) 2D6에 의해 대사되는 약물 이 약은 CYP2D6에 의해 대사되는 다른 약물의 노출을 증가시킬 수 있다(노출 증가[AUC]는 약 33%, 최대혈중농도[Cmax]는 약 26%). 따라서 CYP2D6에 의해 대사되는 약물과 이 약을 병용투여할 때는 주의해야 한다. 6) 갑작 및 기간시용 능력에 미치는 영향 이 약은 운전 및 기계사용 능력에 경미한 영향을 미친다. 이 약 투여 중에 피로 또는 무기 어지럼증이 주관해야 한다. **[이상반응]** 이 약을 투여한 환자에서 가장 흔하게(≥20%) 나타난 이상반응은 설사(86.6%), 발진(77.2%), 손발톱 장애(65.5%), 피부건조(33.3%), 식욕감소(31.8%), 결막염(24.7%), 체중감소(24.3%), 탈모(23.1%), 가려움(22.4%), 아미노전이효소증가(22.0%), 구역/의오(20%)였다. 흔하한 이상반응은 이 약 투여 환자의 5.7%에서 보고되었다. 이 약을 투여한 환자에서 가장 빈번하게(≥1%) 보고된 중대한 이상반응은 설사(2.0%), 간질성폐질환(1.2%), 발진(1.2%), 식욕 감소(1.2%)이었다. 투여중단 감소를 초래한 이상반응은 이 약 투여 환자의 52.2%에서 보고되었다. 이약 투여 환자에서 용량감소가 필요했던 가장 빈번한(>5%) 이상반응은 발진(32.2%), 손발톱 장애(16.5%), 설사(7.5%)였다. 영구적인 투여중단을 초래한 이 상반응은 이 약 투여 환자의 6.7%에서 보고되었다. 이 약 투여 환자에서 영구적인 투여중단이 필요했던 가장 흔한(>0.5%) 이상반응은발진(2.4%), 간질성폐질환(2.0%), 설사(0.8%)였다. **[최종변경허가일]** 2021년 8월 12일

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티쎈트릭®은 국내에서 유일하게
확장기 소세포폐암의 1차 치료제로
급여를 획득하였습니다.[1]
(2021년 11월 기준)

TECENTRIQ®
atezolizumab
CONNECT WITH PURPOSE

Median OS was **12.3** months with TECENTRIQ® + carbo/etop vs 10.3 months with placebo + carbo/etop (HR=0.76; 95% CI, 0.60, 0.95; P=0.0154)[2,3]

NCCN[4]
CATEGORY 1,
PREFERRED

Atezolizumab (TECENTRIQ®) + carbo/etop is a preferred immunotherapy/chemotherapy option (Category 1) for first-line treatment of patients with ES-SCLC in the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines).[1,†]

† Category 1: based upon high-level evidence, there is uniform NCCN consensus that the intervention is appropriate.

1L=first line; **carbo/etop**=carboplatin/etoposide; **CI**=confidence interval; **ES-SCLC**=extensive-stage small cell lung cancer; **HR**=hazard ratio; **NCCN**=National Comprehensive Cancer Network; **OS**=overall survival.

티쎈트릭® 적응증: 소세포폐암[5]

확장병기의 소세포폐암 환자의 1차 치료로서 카보플라틴, 에토포시드와의 병용요법

티쎈트릭®주(아테졸리주맙)

전문의약품

[원료약품 및 그 분량] 이 약 바이알(20mL) 중 유효성분: 아테졸리주맙(별규) 1200mg, 이 약 바이알(14mL) 중 유효성분: 아테졸리주맙(별규) 840mg **[성상]** 무색 내지 연한 노랑 액체가 충전된 바이알 주사제 **[효능·효과]** **오로상피암** 1. 시스플라틴 기반 화학요법제 치료에 적합하지 않은 PD-L1 발현 비율(종양침윤면역세포[IC]에서 염색된 PD-L1 비율) 5% 이상의 국소 진행성 또는 전이성 오로상피암 환자의 치료 2. 백금 기반 화학요법제 치료 중 또는 이후에 질병이 진행되었거나, 백금 기반의 수술 전 보조요법(neoadjuvant) 또는 수술 후 보조요법(adjuvant) 치료 12개월 이내에 질병이 진행한 국소 진행성 또는 전이성 오로상피암 환자의 치료 **비소세포폐암** 1. 백금 기반 화학요법제 치료 중 또는 치료 이후에 질병이 진행된 국소 진행성 또는 전이성 비소세포폐암 환자의 치료. EGFR 또는 ALK 변이가 확인된 환자는 이 약을 투여하기 전에 이러한 변이에 대한 승인된 치료제를 투여한 후에도 질병의 진행이 확인된 경우에 한한다. 2. 전이성 비편평 비소세포폐암 환자의 1차 치료로서 베바시주맙, 파클리탁셀, 카보플라틴과의 병용요법. EGFR 또는 ALK 유전자 변이가 있는 환자는 이 약을 투여하기 전에 표적치료제로 치료를 해야 한다. 3. EGFR 또는 ALK 유전자 변이가 있는 전이성 비편평 비소세포폐암 환자의 1차 치료로서 알부민 결합 파클리탁셀, 카보플라틴과의 병용요법 4. PD-L1 발현 비율 ≥ 50% 종양침윤면역세포[TC] 또는 ≥10% 종양침윤면역세포[IC]으로서, EGFR 또는 ALK 유전자 변이가 없는 전이성 비소세포폐암 환자의 1차 치료로서 카보플라틴과 페메트렉시드와의 병용요법 **삼중음성유방암** 전이 단계에서 이전에 화학요법을 받지 않은 PD-L1 발현 비율(종양침윤면역세포[IC]에서 염색된 PD-L1 비율) 1% 이상의 절제 불가능한 국소 진행성 또는 전이성 삼중음성 유방암 환자의 치료로서 알부민 결합 파클리탁셀과의 병용요법 **간세포암** 이전에 전신 치료를 받지 않은 절제 불가능한 간세포암 환자의 치료로서 아테졸리주맙과의 병용요법 **[용법·용량] 권장용량** 이 약의 초회 용량을 60분에 걸쳐 주입한다. 첫 주입에 내약성을 보일 경우, 이후 모든 주입은 30분 동안 투여할 수 있다. 이 약을 급속 정맥주입(IV bolus)으로 투여해서는 안 된다. 이 약은 기급 상황에 대비 항암화학요법에 대한 지식과 경험이 충분한 의사에 의해 투여되어야 한다. **단독요법** 비소세포폐암의 2차 치료, 요로상피암의 1/2차 치료: 이 약 1200mg을 3주 간격으로 정맥 점적주입한다. **비소세포폐암의 1차 치료:** 이 약 1200mg을 3주 간격으로 정맥 점적주입한다. 식품의약품안전처에서 허가 받은 체외진단용 의료기기를 사용하여 PD-L1 발현 상태를 확인한 환자를 선별해야 한다. **병용요법** 병용 요법 시 이 약의 투여를 위해 병용약제의 처방 정보를 확인한다. 같은 날에 병용 약제를 투여 시 이 약을 먼저 투여한다. **비편평 비소세포폐암의 1차 치료:** 이 약과 베바시주맙, 파클리탁셀, 카보플라틴 병용요법 유도기: 3주 간격으로 4주기 또는 6주기 동안 이 약 1200mg을 정맥 점적주입 후 베바시주맙, 파클리탁셀, 카보플라틴을 투여한다. 유지기: 3주 간격으로 화학요법제 없이 이 약 1200mg을 정맥 점적 주입한다. 베바시주맙, 파클리탁셀, 카보플라틴 병용요법 유도기: 3주 간격으로 4주기 또는 6주기 동안 이 약 1200mg을 정맥 점적주입 후 알부민 결합 파클리탁셀, 카보플라틴을 투여한다. 매 21일 간격의 주기 동안 이 약, 알부민 결합 파클리탁셀 및 카보플라틴을 제1일에 투여한다. 추가로 알부민 결합 파클리탁셀은 제8일, 15일에 투여한다. 유지기: 3주 간격으로 화학요법제 없이 이 약 1200mg을 정맥 점적 주입한다. **확장병기 소세포폐암의 1차 치료:** 유도기: 제1일에 이 약 1200mg을 정맥 점적주입 후 카보플라틴, 에토포시드를 투여한다. 제2일, 3일에 에토포시드를 점적 주입한다. 매 3주마다 4주기 동안 치료한다. 유지기: 3주 간격으로 화학요법제 없이 이 약 1200mg을 정맥 점적 주입한다. **삼중음성유방암의 1차 치료:** 이 약 840mg을 점적 주입 후 100mg/m2 알부민 결합 파클리탁셀을 투여한다. 매 28일 간격의 주기 동안 이 약을 제 1일, 15일에 투여하고 알부민 결합 파클리탁셀은 제1일, 8일, 15일에 투여한다. 식품의약품안전처에서 허가 받은 체외진단용 의료기기를 사용하여 종양침윤면역세포의 PD-L1 발현 상태를 확인하여 환자를 선별해야 한다. **간세포암** 이 약과 베바시주맙 병용요법 3주 간격으로 이 약 1200mg을 정맥 점적 주입 후 베바시주맙 15mg/kg을 투여한다. **치료기간** 이 약은 임상적 이점이 없거나 허용 불가능한 독성 발생 전까지 투여한다. **삼중음성유방암의 1차 치료:** 이 약을 질병 진행 또는 허용 불가능한 독성 발생 전까지 투여한다. 투여 지연 또는 누락 이 약의 계획된 투여를 놓친 경우에는 가능한 빨리 투여해야 한다. 투여 일정은 적절한 투여 간격을 유지하도록 조정해야 한다. **용량조절** 이 약의 용량 감량은 권장되지 않는다. 특정 약물이상반응에 대한 권고 사항은 제품설명서 전문의 표1. 약물이상반응에 대한 용량 조절 지침을 참고한다. **[사용상의 주의사항] 1. 다음 환자에는 투여하지 말 것** 이 약 및 그 구성 성분에 과민증인 환자 **2. 다음 환자에는 신중히 투여할 것** 자기면역질환이 있거나 만성적 혹은 재발성 지기면역질환의 기왕력이 있는 환자 **3. 약물이상반응** 1) 임상시험에 보고된 약물이상반응은 **단독요법** 다양한 암종에 대해 이 약을 단독요법으로 치료한 환자 3,178명에서 매우 흔하게(≥1/10) 발생한, 이 약의 사용과 관련 있는 것으로 보고된 약물이상반응(ADR)은 설사(19.7%), 오심(23.5%), 구토(15.0%), 피로(35.9%), 무력증(14.5%), 발열(20.1%), 요로감염(11.6%), 식욕감소(25.5%), 관절통(13.9%), 오통(15.3%), 근골격통(15.4%), 두통(11.1%), 기침(20.8%), 호흡곤란(20.5%), 발진(19.3%), 가려움증(12.6%)이었다 **병용요법** 다양한 적응증에 대한 병용요법(N=4,371명)에서 매우 흔하게(≥1/10) 발생한 이 약의 사용과 관련 있는 것으로 추가적으로 확인된 단독요법 임상시험에서 보고되지 않은 약물이상반응은 빈혈(36.8%), 호중구감소증(35.8%), 혈소판감소증(27.7%), 백혈구감소증(13.1%), 감상선기능저하증(13.4%), 변비(25.7%), 말초부종(10.3%), 체 감염(12.9%), 말초신경병증(23.0%), 탈모(26.4%), 비인두염(10.1%), 고혈압(14.0%) 이었다. **2) 면역 매개 약물이상반응** 이 약 단독요법의 유의한 약물이상반응에 대한 정보를 반영하였다. 용량조절은 권장용량을 참고한다. ① 면역 매개 폐렴 코르티코스테로이드 사용이 필요하고 명확한 다른 병인이 없는 면역 매개 폐렴 또는 간질성폐질환이 이 약을 투여한 환자에서 발생하였다. 폐렴의 징후 및 증상에 대해 환자를 모니터링 한다. ② 면역 매개 대장염 코르티코스테로이드 사용이 필요하고 명확한 다른 병인이 없는 면역 매개 대장염 또는 설사가 이 약을 투여한 환자에서 발생하였다. 설사 또는 대장염의 징후와 증상에 대해 환자를 모니터링 한다. ③ 면역 매개 내분비병증 이 약을 투여한 환자들에게 면역 매개 갑상선질환, 부신기능부전, 뇌하수체염, 당뇨병성 케톤산증을 포함한 제형 당뇨병이 발생하였다. 내분비병증의 임상적 징후와 증상을 이해 환자를 모니터링 한다. ④ 면역 매개 수막뇌염 이 약을 단독으로 투여한 환자에서 수막뇌염이 발생했다. 수막염 또는 뇌염의 임상적 징후와 증상에 대해 환자를 모니터링 한다. ⑤ 면역 매개 신장병증 이 약을 단독으로 투여한 환자에서 급성내분비장애 및 탈수소성 다발성 신장병증을 포함하는 신장병증이 발생했다. 운동 및 감각신경병증의 증상에 대해 환자를 모니터링 한다. ⑥ 면역 매개 췌장염 이 약을 단독으로 투여한 환자에서 이밀라아제증가 및 리파제증가를 포함한 췌장염이 발생했다. 약 급성췌장염을 암시하는 징후와 증상에 대해 환자를 모니터링 한다. ⑦ 면역 매개 신장염 이 약을 단독으로 투여한 환자에서 신장염이 발생하였다. 신기능 변화에 대해 환자를 모니터링 한다. ⑧ 면역 매개 중증피부이상반응 이 약을 단독으로 투여한 환자에서 중증피부이상반응(SCARs)이 발생하였다. 의심되는 중증 피부 반응이 있는지 환자를 해야 하며 다른 원인은 배제해야 한다. 이전에 다른 면역 치료성 항암제로 치료했을 때 중증 또는 생명을 위협하는 피부 이상반응을 경험한 환자에게 이 약 투여를 고려할 때는 주의를 기울여야 한다. **3) 감염** 이 약을 투여한 환자들에게 감염 등의 중증 감염이 발생하였다. 감염의 징후 및 증상에 대해 환자를 모니터링 하고, 세균성 감염이 의심되거나 확인된 경우 항생제로 치료한다. **4) 주입관련반응** 이 약의 임상시험에서 중증 주입반응이 발생하였다. **5) 면역원성** 모든 치료용 단백질과 마찬가지로 이 약은 면역원성을 유발할 수 있는 잠재적 가능성이 있다. 여러 3상 임상시험에서 13.1~36.4%의 환자에서 치료 발현 항약물항체(ADA), 4.3~19.7%의 환자에서 중화 항체가(NAb)가 나타났다. 항약물항체(ADA)와 중화항체 상태는 아테졸리주맙의 약동학, 유효성 및 안전성에 임상적으로 연관된 영향을 주지 않는 것으로 보인다. (보다 자세한 약물이상반응 발생률 및 약물이상반응에 따른 관리 방법은 전체 제품정보를 참조할 것) **4. 임부, 수유부, 가임여성에 대한 투여** 1) 임부 및 가임여성: 적용가능에 따라 이 약을 임부에게 투여할 경우 태아에게 위험을 초래할 수 있다. 만약 이 약이 임신기간 동안 사용되거나 이 약 투여 중 임신이 된 환자에게 태아에 대한 잠재적 위해에 대해 알려야 한다. 가임여성에게 이 약 투여기간 및 마지막 투여 후 최소 5개월 동안 매우 효과적인 피임법을 사용할 것을 알려야 한다. 2) 수유부: 이 약의 수유 중인 유아에 대한 중증 약물이상반응 가능성 때문에 수유부에게 이 약 투여기간 및 마지막 투여 후 최소 5개월 동안 수유를 중단할 것을 알려야 한다.

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* 보다 자세한 제품 문의 또는 제품 관련 부작용 보고는 (주)한국로슈(02-3451-3600)로 연락주시기 바랍니다.

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EOS, eosinophils; FeNO, fractional exhaled nitric oxide; OCS, oral corticosteroid. †처방 전, 듀피젠트® 국내 허가사항의 적응증 및 용법·용량을 반드시 확인하시기 바랍니다. **as of 2020.08

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[효능·효과] 성인 및 청소년(만 12세 이상) **아토피피부염:** 국소치료제로 적절히 조절되지 않거나 이들 치료제가 권장되지 않는 중등도에서 중증 아토피피부염의 치료 **천식:** 기존 치료에 적절하게 조절되지 않는 중증 천식으로 다음 중 하나에 해당하는 제2형 염증성 천식의 추가 유지 치료 1) 중증 호산구성 천식(혈중 호산구 ≥150 cells/㎕ 또는 호기 산화질소(FeNO) ≥25 ppb) 2) 경구 코르티코스테로이드 의존성의 중증 천식 **[용법·용량] 1.아토피피부염:** - 청소년(만 12세 이상, 몸무게 60kg 이상) 및 성인: 초회 용량으로 600 mg (300 mg을 다른 투여부위로 연속 2회) 투여하고, 이후 유지 용량으로 300 mg을 2주 간격으로 피하투여 - 청소년(만 12세 이상, 몸무게 60kg 미만): 초회 용량으로 400 mg (200 mg을 다른 투여부위로 연속 2회) 투여하고, 이후 유지 용량으로 200 mg을 2주 간격으로 피하투여. 이 약은 단독 또는 국소 코르티코스테로이드와 병용으로 투여할 수 있음. 국소 칼시뉴린 저해제를 사용할 수 있으나, 얼굴, 목, 접힘 부위 및 생식기 부위 같은 문제가 되는 부위에만 사용하도록 함. **2. 천식:** 다음의 한 가지 방법으로 피하투여 - 초회 용량으로 400 mg(200 mg을 다른 투여부위로 연속 2회 투여) 투여 후 유지 용량으로 200 mg을 2주 간격으로 투여 혹은 - 초회 용량으로 600 mg(300 mg을 다른 투여부위로 연속 2회 투여) 투여 후 유지 용량으로 300 mg을 2주 간격으로 투여 혹은 - 경구 코르티코스테로이드 의존성이 있거나 중등도에서 중증 아토피피부염을 동반하고 있는 경우 초회 용량으로 600 mg(300 mg을 다른 투여부위로 연속 2회 주입) 투여 후 유지 용량으로 300 mg을 2주 간격으로 투여 **[사용상 주의사항] 1. 다음 환자에는 투여하지 말 것** 1) 이 약의 주성분 또는 이 약의 다른 성분들에 과민성이 있는 환자 2) 급성 기관지 경련 혹은 천식 발작의 완화 목적으로 사용하지 않는다. **2. 약물이상반응** 1) 임상시험에서의 경험 - **아토피피부염 성인 환자:** 16주 임상시험들에서, 이 약 단독투여군 또는 TCS 병용투여군에서 1% 이상의 발현빈도를 보이면서 각 대조군보다 더 높은 비율로 발생한 약물이상반응에는 주사부위 반응, 결막염, 눈꺼풀염, 구강 헤르페스, 각막염, 눈 가려움증, 기타 단순 헤르페스 감염, 안구건조가 있었음. 이 약과 TCS 병용투여시의 52주 안전성 프로파일은 16주에 관찰된 안전성 프로파일과 일치함. - **아토피피부염 청소년 환자:** 이 약의 16주 안전성 프로파일은 성인 아토피피부염 환자를 대상으로 한 임상시험의 안전성 프로파일과 유사함. 이 약의 52주 안전성 프로파일은 16주에 관찰된 안전성 프로파일과 유사함. - **천식** 24주 임상시험들에서, 이 약 단독투여군에서 1% 이상의 발현빈도를 보이면서 위약 대조군보다 더 높은 비율로 발생한 약물이상반응에는 주사부위반응, 구강 인두 통증, 호산구 증가증이 있었음. 이 약의 52주 안전성 프로파일은 24주에 관찰된 안전성 프로파일과 전반적으로 일관된 결과를 보임. 2) 면역원성: 다른 모든 치료용 단백질과 마찬가지로, 이 약은 잠재적 면역원성이 있을 수 있음. **3. 일반적 주의** 1) 과민반응: 임상시험에서 이 약을 투여 받은 시험대상자의 1% 미만에서 전신성 두드러기, 발진, 결절성 홍반, 혈청병 또는 혈청병 유사반응을 포함한 과민반응이 보고됨. 2) 결막염 및 각막염: 환자들에게 눈 증상이 새로 발생하거나 악화될 경우 의료진에게 알리도록 권고함. 3) 호산구성 상태: 의료진들은 혈관성 발진, 폐 증상의 악화, 심장 합병증 및/또는 호산구증 환자의 신경병증에 주의해야함. 4) 급성 천식 증상 혹은 질병 악화: 이 약은 급성 천식 증상 혹은 급성 악화에 투여해서는 안 됨. 급성 기관지 경련 혹은 천식 발작 환자에게 이 약을 투여해서는 안 됨. 이 약 투여 개시 이후 천식이 조절되지 않거나 악화된다면 전문가의 자문을 구해야 함. 5) 코르티코스테로이드 용량의 감량: 이 약의 치료 개시와 함께 전신, 국소 혹은 흡입 코르티코스테로이드의 투여를 갑자기 중단해서는 안 됨. 필요 시, 코르티코스테로이드의 감량은 점진적으로 의사의 직접적인 감독 하에 이루어져야 함. 6) 천식 동반 질환: 천식 동반 질환이 있는 환자에게 의사와의 상담 없이 천식 치료를 조절하거나 중단하지 않도록 권고함. 7) 기생충 감염: 기생충 감염이 있는 환자는 임상시험에 포함되지 않음. **4. 적용상의 주의** 1) 이 약은 의료인이 지도하에 사용함. 프리필드시린지를 이용한 피하주사방법에 대해 교육을 받은 후 환자가 자가 주사할 수 있음. 2) 이 약이 자가 주사에 앞서, 환자 또는 간병인에게 이 약의 바 및 투여방법에 대해 교육함. 3) 장해진 투여를 놓친 경우, 장해진 투여일로부터 7일 이내에 약제를 투여하도록 지시하고, 기존에 계획된 다음 투여 일정을 재개함. 장해진 투여일로부터 7일이 지났다면 계획된 다음 투여일자에 투여하도록 지시함. ※보다 자세한 내용은 홈페이지(www.sanofi.co.kr)나 제품 설명서를 참고하시기 바랍니다. [문안개정연월일: 2020년 7월 15일]

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PRESCRIBING INFORMATION **[제품명]** 알론브릭®정 30 mg, 90 mg, 180 mg (브리기티닙) **[효능 효과]** 역형성 림프종 인산화효소 (ALK) 양성 진행성 또는 전이성 비소세포성 폐암 환자의 치료 **[용법 용량]** **1.** ALK 검사 이 약을 투여하고자 하는 경우, 치료 시작 전에 ALK 양성 상태를 평가해야 한다. ALK 양성 진단시험은 식품의약품안전나라에서 동 의약품의 사용에 적합하게 허가된 체외 진단용 의료기기를 사용하여 평가한다. 정확하고 검증된 ALK 검사가 ALK 양성 비소세포 폐암 환자의 선택을 위해 사용되어야 한다. ALK 양성 비소세포 폐암의 평가는 활용되는 특정 기술에 대해 숙련도가 입증된 실험실에서 검사가 이루어져야 한다. **2.** 권장 용량 이 약에 대해 권장되는 용량 및 용법은 다음과 같다. • 처음 7일 동안의 내약성이 좋은 경우, 용량을 180 mg 1일 1회 경구투여. • 처음 7일 동안의 내약성이 좋은 경우, 용량을 180 mg 1일 1회로 증량한다. 장벽이 진행되거나 관리 불가능한 독성이 발생될 때까지 이 약의 투여를 지속한다. 이상반응이 아닌 다른 이유로 14일 이상 이 약의 투여를 중단한 경우, 이전의 용량으로 중량하기 전에 90 mg 1일 1회 기입동안 투여로 치료를 재개한다. 이 약은 음식과 함께 또는 공복 상태에서 투여가 가능하다. 정제를 부수거나 씹어서는 안 되고, 그대로 삼켜야 한다. 이 약의 투여를 빠트리거나 복용 후 구토하더라도 추가 용량을 투여해서는 안 되며, 계획된 다음 투여 시간에 해당 용량을 복용해야 한다. 이상반응에 따른 권장 용량 변경 등에 대한 자세한 정보는 제품 설명서 참조. **[사용상의 주의 사항]** **1.** 경고: 1) 간질성 폐질환 (ILD)/폐렴 (자세한 정보는 제품 설명서 참조) **2.** 다음 환자에는 투여하지 말 것 1) 이 약의 주성분 또는 첨가제에 과민반응의 병력이 있는 환자 2) 이 약은 유당을 함유하고 있으므로, 갈락토오스 불내성 (galactose intolerance), Lapp 유당분해효소 결핍증 (Lapp lactase deficiency) 또는 포도당-갈락토오스 흡수 장애 (glucose-galactose malabsorption) 등의 유전적인 문제가 있는 환자에게는 투여하면 안 된다. **3.** 이상반응: 1) 안전성 프로파일 요약 이 약을 권장 용량으로 투여한 환자에게 보고된 가장 흔한 이상반응 (≥ 25%)은 AST 증가, CPK 증가, 고혈당증, 리파아제 증가, 고인슐린혈증, 설사, ALT 증가, 아밀라제 증가, 빈혈, 오심, 피로, 저인산혈증, 림프구 수 감소, 기침, 알칼리성 인산 분해 효소 증가, 발진, APTT 증가, 근육통, 두통, 고혈압, 백혈구 수 감소, 호흡 곤란 및 구토이다. 이 약을 권장 용량으로 투여한 환자에게 중양의 진행과 관련된 중상 이외의 가장 흔하고 중대한 이상반응 (≥ 2%)은 폐렴, 간질성폐렴, 호흡 곤란 및 발열이다. (자세한 정보는 제품 설명서 참조) **4.** 일반적 주의: 1) 고혈압, 2) 서맥, 3) 시각 장애, 4) 크레아티닌 인산 분해 효소 (CPK)상승, 5) 췌장 효소 상승, 6) 간독성, 7) 고혈당증, 8)피임 (동 이상반응 관리 등에 관한 자세한 정보는 제품 설명서 참조). **5.** 상호 작용: 1) 이 약의 혈장 농도를 증가시킬 수 있는 약물: CYP3A 억제제, CYP2C8 억제제, P-gp 및 BCRP 억제제 2) 이 약의 혈장 농도를 감소시킬 수 있는 약물: CYP3A 유도제 3) 이 약에 의해 혈장 농도가 변할 수 있는 약물: CYP3A 기질 4) 수송체 기질 (동 약물 상호 작용에 따른 자세한 정보는 제품 설명서 참조) **6.** 임부, 수유부, 가임여성에 대한 투여 1) 가임기 여성 및 남성 이 약으로 치료를 받고 있는 가임기 여성에게 임신하지 않도록 권고해야 하며 이 약으로 치료를 받고 있는 남성에게 치료 중 배우자를 임신시키지 않도록 권고해야 한다. 가임기 여성에게 이 약의 투여 중과 마지막 투여 후 최소 4개월 동안은 효과적인 비호르몬 피임 방법을 사용 하도록 조언해야 한다. 가임기 여성의 남성 파트너에게 이 약의 투여 기간 중 및 마지막 투여 후 최소 3개월 동안은 효과적인 피임방법을 사용 하도록 권고한다. (임부 및 수유부, 가임여성에 대한 자세한 정보는 제품 설명서 참조) 이하 **7.** 소아에 대한 투여, **8.** 고령자에 대한 투여, **9.** 간장애 환자 **10.** 신장애 환자에 대한 투여, **11.** 보관 및 취급상의 주의사항 **12.** 전문가를 위한 정보는 제품 설명서 참조 **[포장 단위]** 알론브릭®정 30알리그램: 28정 (14정/PTPX2), 56정 (14정/PTPX4), 알론브릭®정 90알리그램: 28정 (7정/PTPX4), 7정 (7정/PTPX1), 알론브릭®정 180알리그램: 28정 (7정/PTPX4) **[저장 방법]** 기밀용기, 실온보관 [수입자] 한국다케다제약㈜/서울특별시 송파구 올림픽로 300, 37층 (신천동, 롯데월드 타워) 전화: (02)3484-0800 이 내용은 허가사항을 요약한 것으로, 더 자세한 제품정보는 식품의약품안전나라 홈페이지 (https://nedrug.mfds.go.kr)의 제품 허가사항을 참조하시기 바랍니다.

• 이 내용은 허가사항을 요약한 것으로 자세한 정보는 제품의 첨부 문서 또는 식약처 의약품안전나라 (http://nedrug.mfds.go.kr)의 각 제품 허가사항을 확인하십시오.

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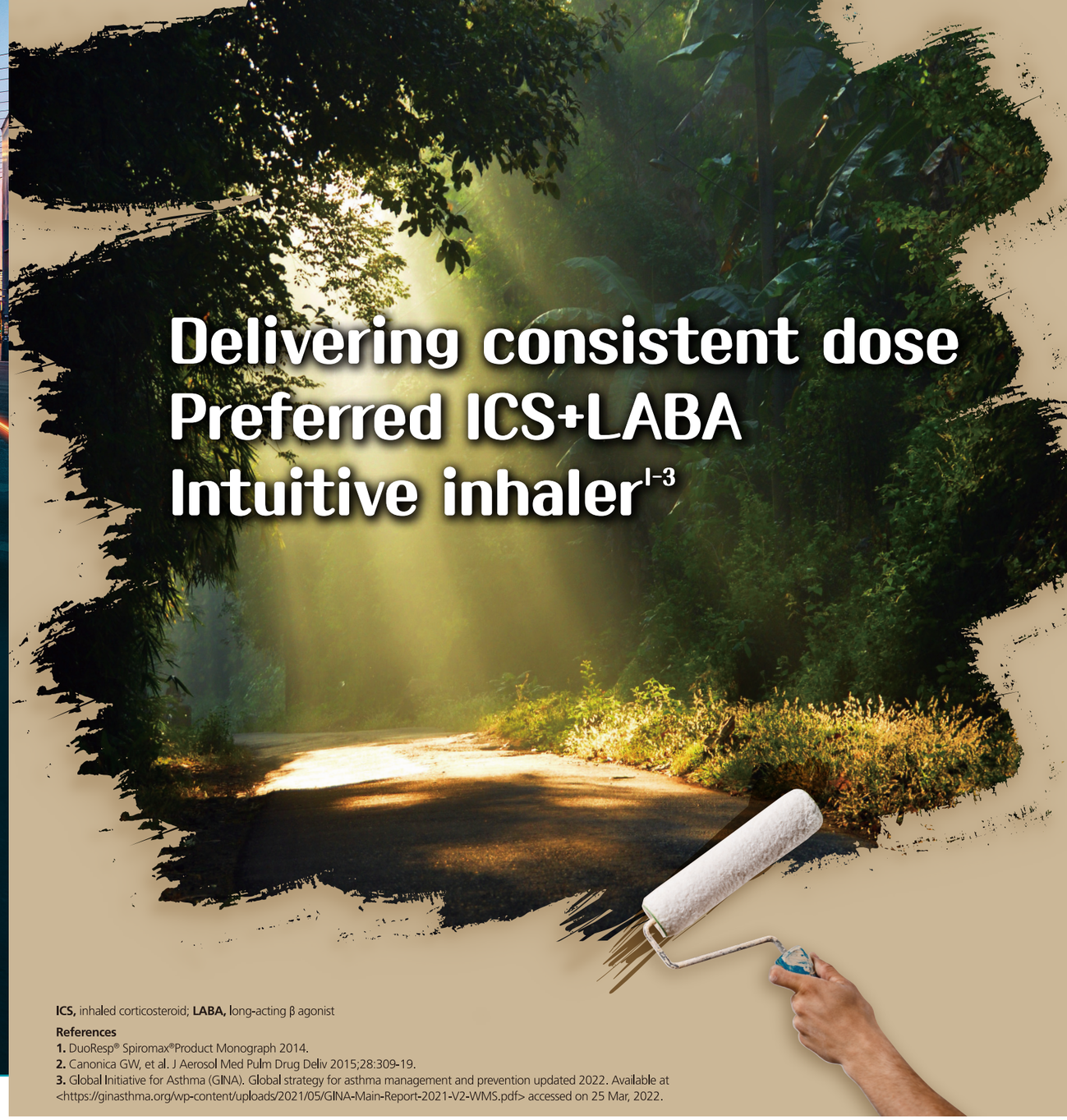

Delivering consistent dose Preferred ICS+LABA Intuitive inhaler[1-3]

ICS, inhaled corticosteroid; **LABA,** long-acting β agonist

References

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[원료약품 및 분량] 1회 분무량 중 160/4,5 mcg: • **유효성분:** 부데소니드 (EP) 160 μg, 포르모테롤푸마르산염수화물 (EP) 4,5 μg, • **첨가제:** 유당수화물, 320/9 mcg: • **유효성분:** 부데소니드 (EP) 320 μg, 포르모테롤푸마르산염수화물 (EP) 9 μg, • **첨가제:** 유당수화물 **[효능 • 효과]** 천식환자의 치료, 중증의 만성폐쇄성폐질환 **[용법 • 용량] [1] 160/4,5 mcg 〈천식〉** – 이 약은 천식 증상의 예방과 증상의 완화 그리고 증상악화 위험의 감소를 포함한 전반적인 천식의 조절을 위한 천식의 치료를 목적으로 한다. 이 약은 흡입 코르티코스테로이드의 사용이 적합한 천식 환자들에게 천식의 중증도와 상관없이 투여 가능하며 용량은 질환의 중증도에 따라 개별별로 조정해야 한다. 이는 치료의 시작 시기뿐 아니라 용량 조절 시기에도 고려되어야 한다. 만일 환자 개개인이 복합제로서 가능한 용량 이외의 복합 용량을 필요로 하는 경우 개개 성분의 흡입제제 의한 적절한 용량의 β_2 효능약이나 코르티코스테로이드를 처방하여야 한다. – 환자는 정기적으로 의사의 진단을 받아 이 약의 최적의 용량을 유지할 수 있도록 해야 하며 천식증상을 조절할 수 있는 최저용량으로 유지되어야 한다. – 이 약은 이래와 같은 치료 요법들이 있다. **1. 항염증 증상완화요법(Anti-inflammatory reliever therapy) 2. 항염증 증상완화요법을 포함한 유지요법(Anti-inflammatory reliever plus maintenance therapy) 3. 유지요법(Maintenance therapy) 1, 항염증 증상완화요법 (경증 천식 환자):** 이 약은 천식의 증상이 발생했을 때 완화요법으로 필요시(as needed) 흡입되며 알레르기원에 노출과 운동 강상에 대해 환자와 의논해야 하고 용량 및 빈도를 권장할 때 알레르기원에의 노출과 운동 강상을 고려해야 한다 (사용상의 주의사항) 4, 일반적주의 5)항 참조) [추천용량] • 12세 이상의 청소년 및 성인: 환자는 증상완화를 위해 필요시 1회를 흡입해야 하며, 천식 조절을 위하여 알레르기원 또는 운동으로 유발된 기관지수축의 예방 목적으로도 사용할 수 있다, 만약 증상이 수분동안 지속되면 추가적인 흡입이 필요하다, 환자가 1회에 6번을 초과하여 흡입하지 않도록 한다, 총 1일 흡입용량은 8번 이하이지만 예외적인 경우에 일시적으로 1일 최대 12번까지 흡입할 수 있다, 1일 흡입용량이 8번 이상 요구되는 환자는 지속되는 증상의 원인을 재평가 받아야 한다, • 4세 이상의 소아: 4-11세 환자에 대한 항염증 증상완화요법의 효과와 안전성은 연구되지 않았다, **2, 항염증 증상완화요법을 포함한 유지요법:** 이 약은 흡입된 코르티코스테로이드의 지속적 β_2 2효능약의 병용 유지요법이 필요한 경우 항염증 증상완화요법으로 흡입하면서 매일 유지요법으로도 사용한다, 필요시(as needed) 흡입은 신속하게 증상을 완화시키고 전반적인 천식 조절을 개선시킨다, 환자는 증상완화를 위하여 이 약을 항상 휴대하여야 한다, 증상완화를 위한 별도의 흡입제는 필요하지 않다, – 이 약의 함염증 증상완화요법을 포함한 유지요법은 특히 다음의 환자에서 고려되어야 한다: • 천식이 충분히 조절되지 않고 자주 증상완화요법이 필요한 환자 • 과거 간헐적인 천식악화를 경험한 환자 – 증상완화를 위하여 이 약의 흡입용수가 높은 환자는 용량관련 이상반응의 모니터링이 필요하다, [추천용량] • 12세 이상의 청소년 및 성인: 환자들은 추천 유지 용량1회 1번을 1일 2회 흡입, 아침 1회, 저녁1회씩 흡입 또는 저녁에만 2회 흡입 또는 저녁에만 2회 흡입을 흡입한다, 일부 환자는 최대 1회 2번을 1일 2회 유지요법으로 흡입할 수 있다, 환자는 증상완화를 위하여 필요시 1회를 흡입해야 하며, 만약 증상이 수분동안 지속되면 추가적인 흡입이 필요하다, 환자가 1회에 6번을 초과하여 흡입하지 않도록 한다, 총 1일 흡입용량은 8번 이하이지만 예외적인 경우에 일시적으로 1일 최대 12번까지 흡입할 수 있다, 1일 흡입용량이 8번 이상 요구되는 환자는 추가적인 의학적 처치가 필요하며, 환자의 상태를 재평가하고, 유지요법을 재고하여야 한다, • 12세 미만의 소아: 12세 미만의 소아에게 증상완화를 포함한 유지요법은 추천되지 않는다, **3. 유지요법(고정용량):** – 흡입 코르티코스테로이드와 지속형 β_2 2효능약의 병용 유지요법이 필요한 경우 이 약의 고정된 용량의 유지요법을 사용한면서 증상완화의 목적으로 별도의 속효성 기관지확장제를 사용하는 요법이다, 환자는 증상완화의 목적으로 별도의 속효성 기관지확장제를 항상 휴대하여야 한다, [추천용량] • 18세 이상의 성인: 1회 1~2번을 1일 2회 흡입하거나 또는 1회 1~2번 1일 1회 흡입한다, 일부환자는 최대 1회 4번을 1일 2회까지 흡입할 수 있다, • 12~17세의 청소년: 1회 1~2번을 1일 2회 흡입하거나 또는 1회 1~2번 1일 1회 저녁에 흡입한다, • 6세 이상 12세 미만 소아: 1회 1번을 1일 2회 흡입한다, 1일 최대 2번까지 흡입할 수 있다, • 6세 미만의 소아: 6세 미만의 소아에 대하여 이 약의 투여는 추천되지 않는다, – 이 약 1일 2회 투여로 증상이 조절될 경우, 자속형 기관지 확장제가 증상조절에 필요하다는 의사의 처방이 있는 경우에 한하여 최저유효용량으로의 용량 조절 범위에 이 약 1일 1회 투여가 포함될 수 있다, – 구제요법으로 사용하는 속효성 기관지확장제의 용량 증가는 기저 질환의 악화를 나타내며 천식 치료가 재평가돼야 한다, – 증상이 조절된 경우, 천식증상을 조절할 수 있는 최저용량으로 유지되야 한다, * **특정 환자군** – 노인환자의 경우 용량을 조절할 필요는 없다, – 간이나 신손상 환자에서 이 약의 사용에 대한 자료는 없다, 부데소니드와 포르모테롤은 주로 간대사를 통해 제거되므로 심각한 간경화 환자에서는 노출의 증가가 예상된다. **〈만성폐쇄성폐질환〉** 성인 : 1회 2번을 1일 2회 흡입 **[2] 320/9mcg 〈천식〉** – 이 약은 유지요법으로만 사용되어야 하며, 증상완화를 포함한 유지요법을 위해서는 낮은 용량의 제품을 사용한다, – 이 약은 천식의 초기치료용은 아니며 용량은 질환의 중증도에 따라 개인별로 조정해야 한다, 이는 치료의 시작 시기뿐 아니라 용량 조절 시기에도 고려되어야 한다, 만일 환자 개개인이 복합제로서 가능한 용량 이외의 복합 용량을 필요로 하는 경우 개개 성분의 흡입제 의한 적절한 용량의 β_2 효능약이나 코르티코스테로이드를 처방하여야 한다, – 환자는 정기적으로 의사의 진단을 받아 최적의 용량을 유지할 수 있도록 해야 하며 천식증상을 조절할 수 있는 최저용량으로 유지되어야 한다, 증상조절이 최저 추천용량에서 유지될 때 다음 단계는 흡입용 코르티코스테로이드를 단독투여하는 방법이 될 수 있다, [추천용량] (1) 18세 이상의 성인 : 1회 1번을 1일 2회 흡입한다, 일부환자는 최대 1회 2번을 1일 2회까지 흡입할 수 있다, (2) 12~17세의 청소년 : 1회 1번을 1일 2회 흡입한다, (3) 12세 미만 소아 : 소아에 대한 안전성 유효성이 충분히 연구되지 않았다, 12세 이하의 소아에 대한 이 약의 투여는 추천되지 않는다, – 이 약 1일 2회 투여로 증상이 조절될 경우, 자속형 기관지 확장제가 증상조절에 필요하다는 의사의 처방이 있는 경우에 한하여, 최저유효용량으로의 용량 조절 범위에 이 약 1일 1회 투여가 포함될 수 있다, – 구제요법으로 사용하는 기관지확장제의 용량 증가는 기저 질환의 악화를 나타내며 천식 치료가 재평가돼야 한다, * **특정 환자군** – 노인환자의 경우 용량을 조절할 필요는 없다, – 간이나 신손상 환자에서 이 약의 사용에 대한 자료는 없다, 부데소니드와 포르모테롤은 주로 간대사를 통해 제거되므로 심각한 간경화 환자에서는 노출의 증가가 예상된다. **〈만성폐쇄성폐질환〉** 성인 : 1회 1번을 1일 2회 흡입 **[수입자]** ㈜한독테바 **[소비자 상담전화]** 02-527-5506 ※ **자세한 품목허가 사항은 식품의약품안전처 의약품통합정보시스템 (http://nedrug.mfds.go.kr) 또는 제품의 첨부문서를 확인하여 주시기 바랍니다.**

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[References] **1.** Brozek JL, *et al. J Allergy Clin Immunol.* 2017;140(4):950-958. **2.** Dykewicz MS, *et al. J Allergy Clin Immunol.* 2020;146(4):721-767. **3.** Ryaltris® FDA-approved label (Revised on Jul. 2022) **4.** 리알트리스나잘스프레이액 제품설명서 (작성연월일 2022.03.18). **5.** Sher ER, *et al. Allergy Asthma Proc.* 2014;35(1):24-33. **6.** Meltzer EO, *et al. Treat Respir Med.* 2005;4(4):289-296. **7.** Meltzer EO, *et al. Allergy Asthma Proc.* 2008;29(6):659-668.

리알트리스나잘스프레이액 제품요약정보

전문의약품

[원료 약품 및 분량] 1 mL 중 모메타손푸로에이트일수화물(EP) 0.259 mg (모메타손푸로에이트로서 0.25 mg), 올로파타딘염산염(USP) 6.65 mg (올로파타딘으로서 6 mg) **[효능·효과]** 성인 및 12세 이상 청소년: 계절 알레르기비염 증상의 치료 **[용법·용량]** 계절 알레르기 비염: 하루2회 각 비공에 2번씩 분무하십시오. **[사용상의 주의사항] 1. 다음 환자에는 투여하지 마십시오.** 1) 이 약 또는 이 약의 구성성분에 대해 과민반응 및 그 병력이 있는 환자 2) 비강 궤양, 비중격 천공, 비출혈, 비강점막에 치료되지 않은 국소감염, 칸디다 알비칸스 감염 3) 최근에 비강의 외과수술을 받았거나 비강의 질병을 가진 환자, 비중격궤양 환자 또는 코에 외상이 있는 환자(코르티코스테로이드류의 상처치유 방해효과를 고려하여 이러한 환자는 치유가 될 때까지 비강용 코르티코스테로이드류를 사용해서는 안 된다.) **[저장방법]** 기밀용기, 15℃~25℃ 보관 **[포장단위]** 18 mL/병, 31 mL/병 **[작성연월일]** 2022.03.18

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