Roche Pharma Day 2021

Late Stage Pipeline Infectious Diseases

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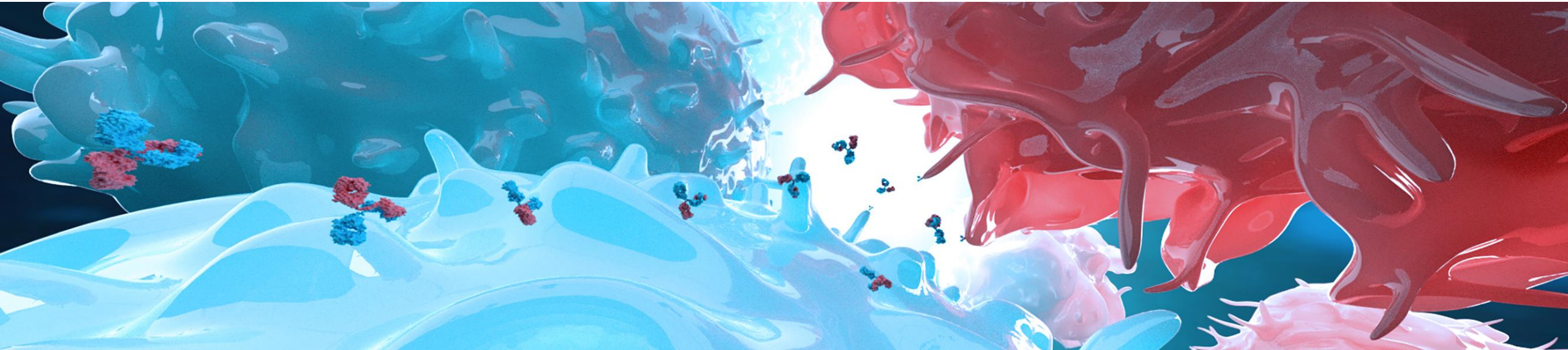
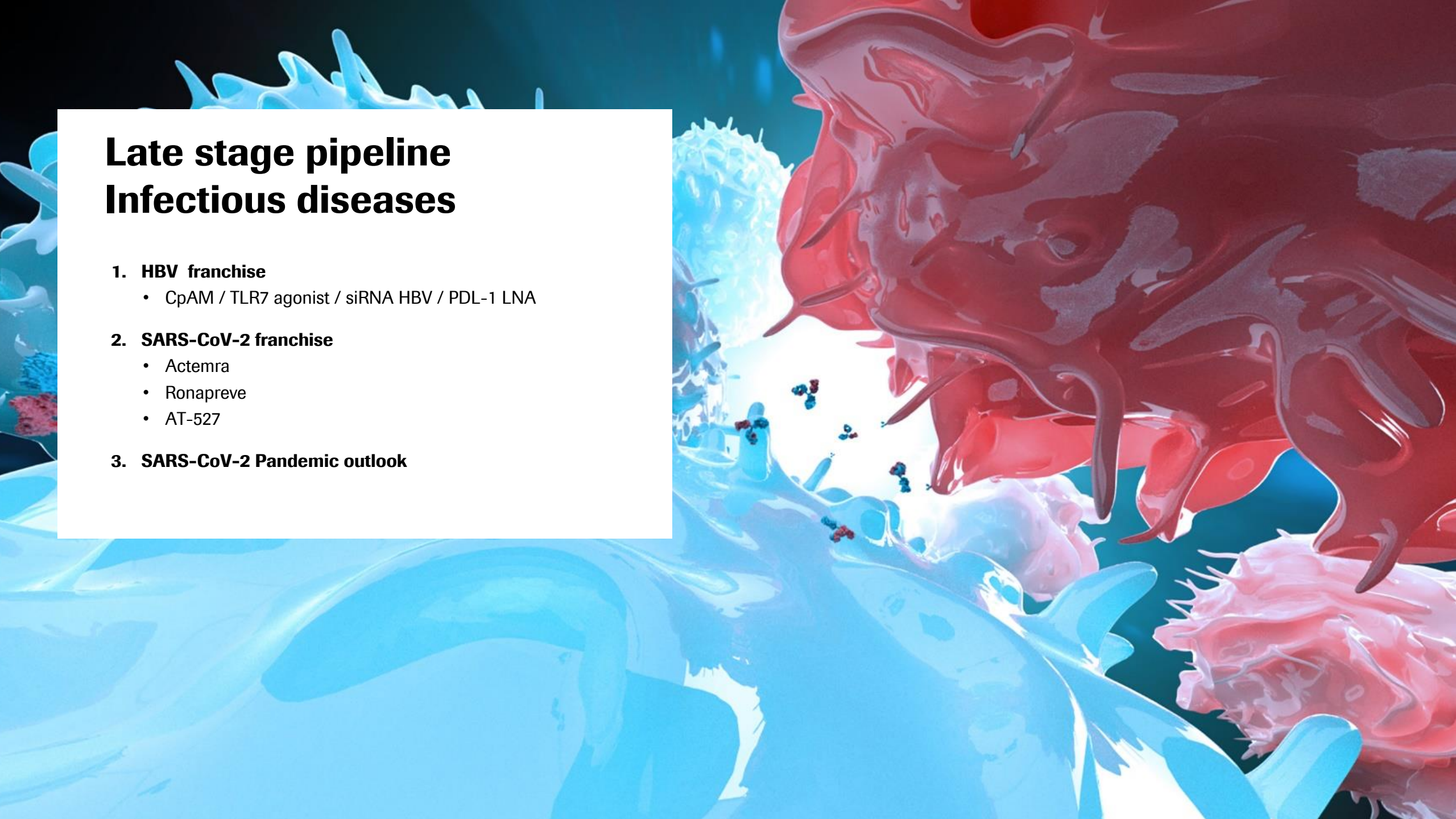




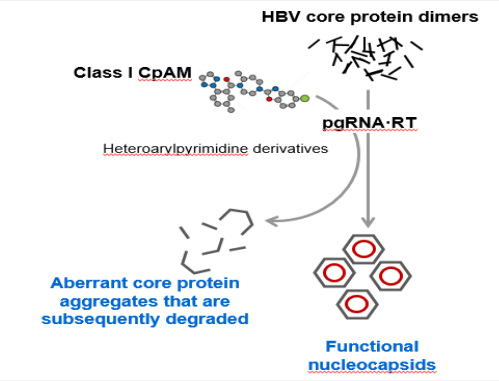
Late stage pipeline
Infectious diseases

1. **HBV franchise**
   - CpAM / TLR7 agonist / siRNA HBV / PDL-1 LNA
2. **SARS-CoV-2 franchise**
   - Actemra
   - Ronapreve
   - AT-527
3. **SARS-CoV-2 Pandemic outlook**

Hepatitis B virus: CpAM / TLR7 agonist / HBV siRNA / PDL-1 LNA

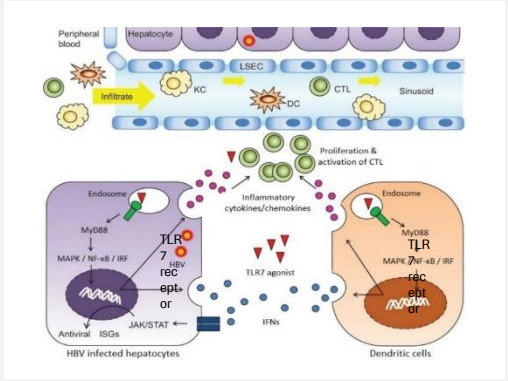
4 new MOAs in clinical development

Core protein allosteric modulator (CpAM)



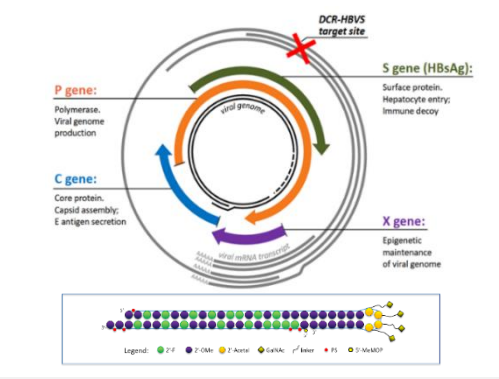
- Effective against all major HBV genotypes
- Showing successful HBsAg reduction in mouse model

Toll like receptor 7 (TLR7) agonist



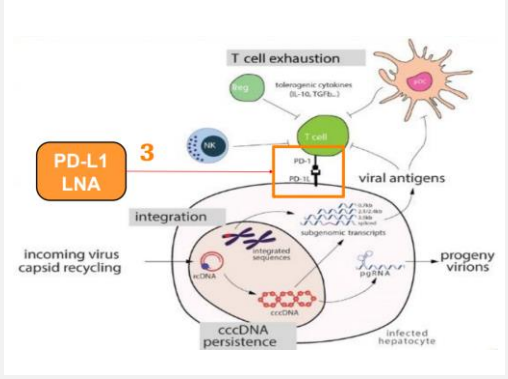
- TLR7 detects single-stranded viral RNA and mediates anti-viral cytokine production and dendritic cell activation
- Unique double pro-drug selectively activated in the liver

siRNA inhibiting multiple HBV genes



- Dicerna proprietary liver-targeted RNAi technology (GalXC™) with unique ‘tetraloop’ folded design
- Designed to inhibit HBV gene expression by targeting of HBV genome S open reading frame

PDL-1 LNA



- Inhibition of the PD-L1/PD-1 interaction removes a T cell inhibitory signal
- Liver-directed locked nucleic acid oligonucleotide (RNA) targeting PDL-1 expression on hepatocytes to minimize systemic toxicity

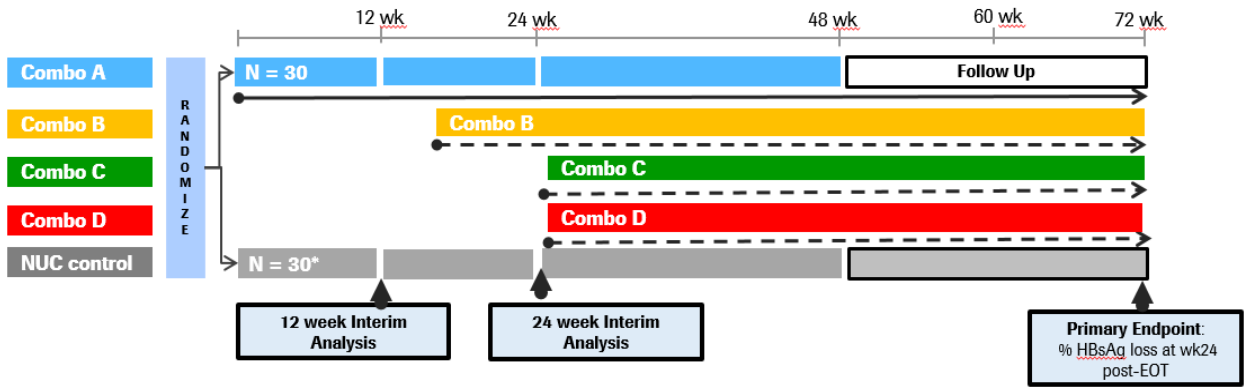
MOA=mechanism of action; HBsAg=Hepatitis B surface-antigen; LNA=locked nucleic acid

Hepatitis B virus: Combination platform initiated

Multiple combinations now in Ph II testing

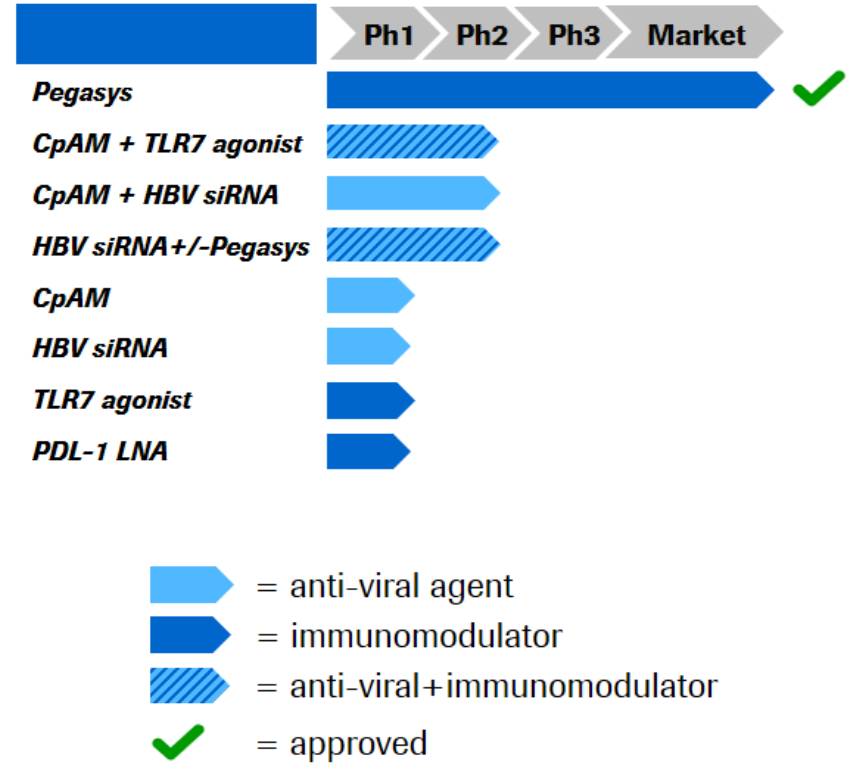
Screening drug combinations efficiently

Highly adaptive HBV combination platform



- Adaptive platform for Ph II study with shared control arm
- Designed to find the best combination therapy for HBV cure
- Opportunity to seamlessly add and terminate drug combinations

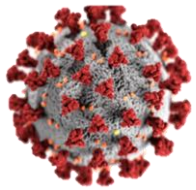
HBV development program progresses



NUC=nucleosides

SARS-CoV-2: Our outstanding contribution battling the pandemic

> 1 million hospitalized patients received Roche's treatments



Pharma

AT-527

Atea collaboration signed

Positive Ph II interim analysis in hospitalized patients

RONAPREVE casirivimab and imdevimab

Regeneron collaboration signed

FDA EUA in mild-moderate adults & adolescents

EU CHMP scientific opinion supporting use

Study 2067 outpatients ✓

Study 2069 prophylaxis ✓

RECOVERY in hospitalized patients ✓

ACTEMRA tocilizumab

COVACTA trial initiated

REMDACTA trial initiated

COVACTA results ✗

EMPACTA results ✓

REMAP-CAP results ✓

RECOVERY results ✓

FDA EUA hospitalized patients

WHO recommends anti IL-6

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul

Diagnostics

PCR

TIB MOLBIOL LightMix® Modular SARS-CoV-2

cobas® SARS-CoV-2 on cobas® 6800/8800

cobas® SARS-CoV-2 & Influenza A/B

cobas® SARS-CoV-2 Variant set 1 (RUO)

ePlex® Respiratory Pathogen Panel 2*

cobas® SARS-CoV-2 on the cobas® Liat®

Antigen

SARS-CoV-2 rapid antigen

Elecsys® SARS-CoV-2 antigen

SARS-CoV-2 rapid antigen nasal

SARS-CoV-2 rapid antigen nasal self-testing

Antibody

Elecsys® Anti-SARS-CoV-2

Elecsys® IL-6

SARS-CoV-2 rapid antibody

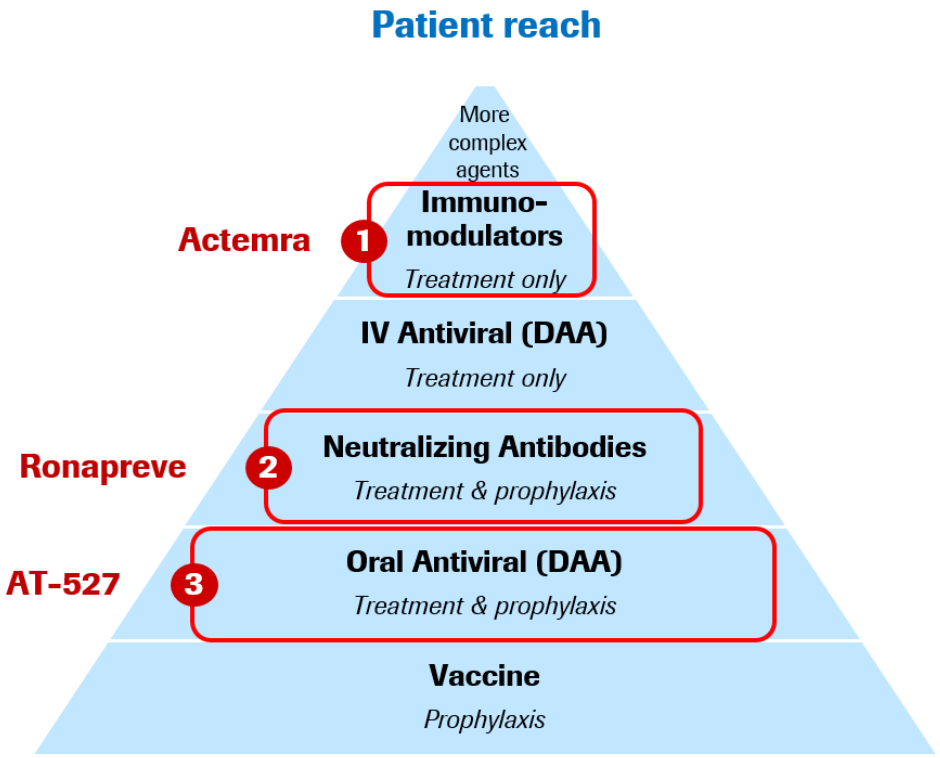
Elecsys® Anti-SARS-CoV-2 S

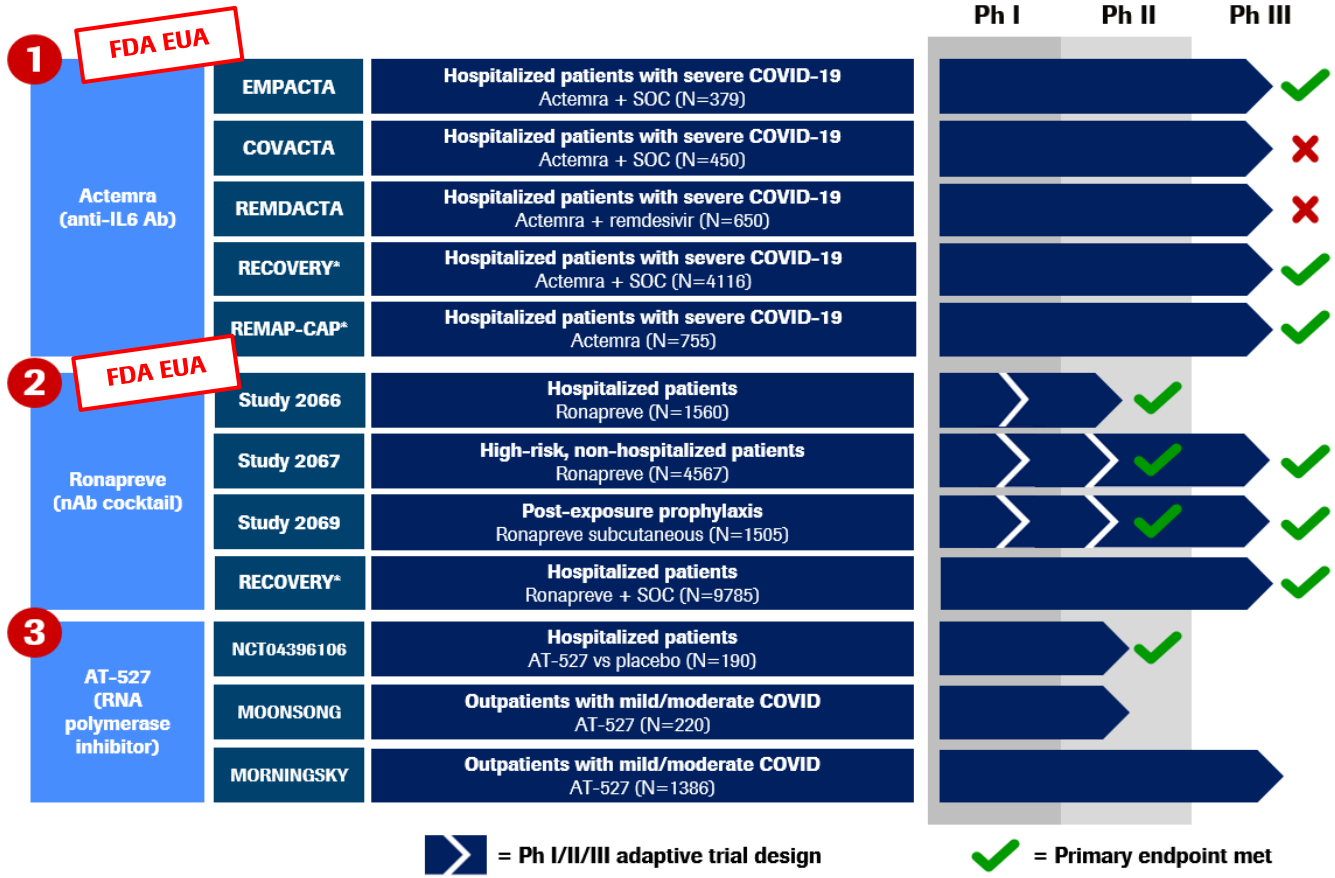
✓ = positive Ph III results

Overview: not all COVID-19 related developments and health solutions captured; EUA=emergency use authorization; RUO=Research use only; * through GenMark acquisition

SARS-CoV-2: Broad development program ongoing

Different scientific approaches serving different pandemic needs





EUA=emergency use authorization; nAb=neutralizing antibodies; DAA=direct acting antiviral; * RECOVERY trial conducted by the University of Oxford; REMAP-CAP trial conducted by the Imperial College London; AT-527 Ph II study in hospitalized patients run by ATEA Pharmaceuticals

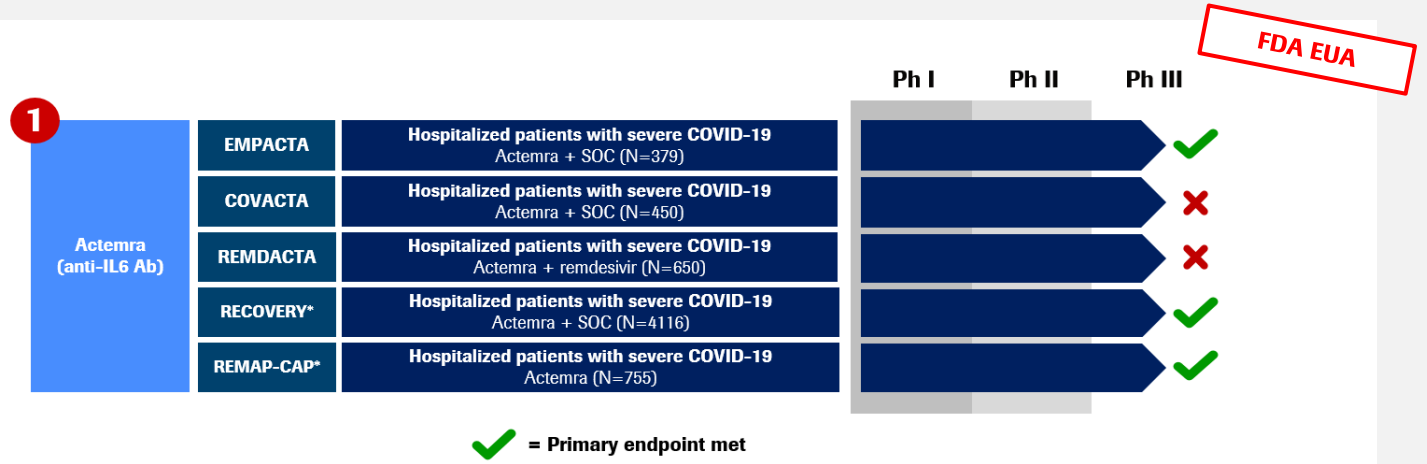
SARS-CoV-2: Actemra for severe COVID-19 associated pneumonia

WHO recommends IL-6 inhibitors for hospitalized patients

Anti-IL6 receptor mAb

- Approved in RA, JIA, GCA and for CAR T-cell induced CRS
- As IL-6 plays an important role in SARS-CoV-2 infections and is considered a prognostic marker for disease severity, Roche initiated a Ph III program in hospitalized patients

Totality of randomized Ph IIIs demonstrates efficacy in hospitalized patients



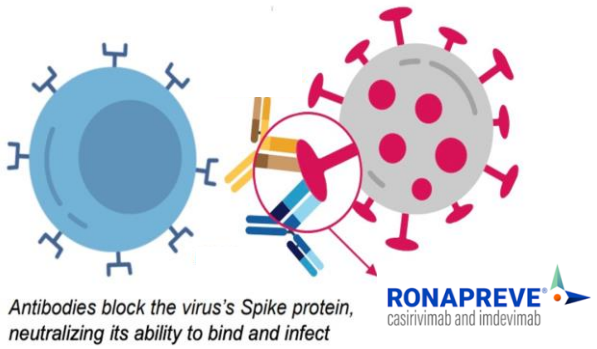
- Ph III (RECOVERY)* results showed that when Actemra is administered to hospitalized COVID-19 patients who received corticosteroids and require supplemental oxygen or breathing support the risk of death is reduced by 14% and enables faster recovery
- Based on a meta-analysis including Actemra in >8,000 hospitalized patients the WHO issued new treatment guidelines, recommending IL-6 inhibitors for severe COVID-19; the analysis showed Actemra to reduce mortality in hospitalized patients receiving corticosteroids

WHO=world health organization; RA=rheumatoid arthritis; JIA=juvenile idiopathic arthritis; GCA=giant cell arteritis; CRS=cytokine release syndrome; * RECOVERY trial conducted by the University of Oxford; REMAP-CAP trial conducted by the Imperial College London

SARS-CoV-2: Ronapreve maintains activity against key variants

Positive data in prophylaxis, non-hospitalized & hospitalized patients

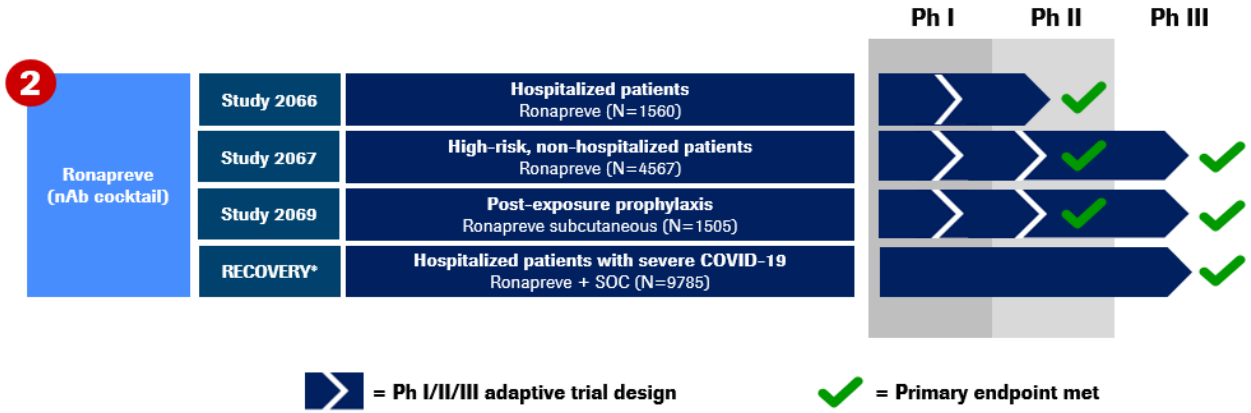
Neutralizing Ab cocktail



- Two potent, virus neutralizing Abs binding non-competitively to the critical receptor binding domain of the virus's spike protein[1]
- Multiple simultaneous virus mutations needed to escape the nAb cocktail, which is an unlikely scenario[2,3]

Extensive trial program with >25.000 patients

FDA EUA Approval Japan



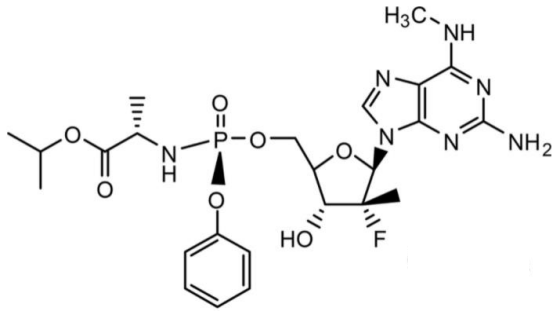
- Ph I-III (Study 2067) results show that Ronapreve reduces the risk of hospitalization or death by 70% for the low dose and by 71% for the high dose
- Ph I-III (Study 2069) results show that a low dose of 1,200 mg SC Ronapreve reduces the risk of symptomatic infections by 81% in those who were not infected when they entered the trial
- Ph III (RECOVERY)* results for Ronapreve show a 20% reduction in the risk of death for patients who do not mount their own antibody response against SARS-CoV-2

Ronapreve in collaboration with Regeneron; [1] A. Baum et al., Science (2020); [2] Copin R, et al., Cell (2021); [3] Chen R. et al., Nature (2020); Ab=antibody; * RECOVERY trial conducted by the University of Oxford; REMAP-CAP trial conducted by the Imperial College London

SARS-CoV-2: AT-527 for the outpatient setting

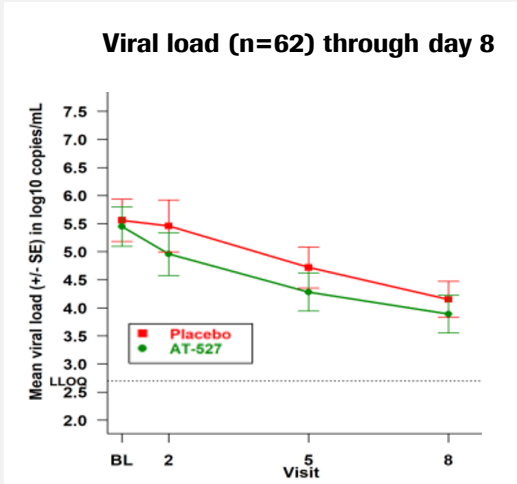
Ph II interim viral load results in hospitalized patients

Purine nucleotide prodrug



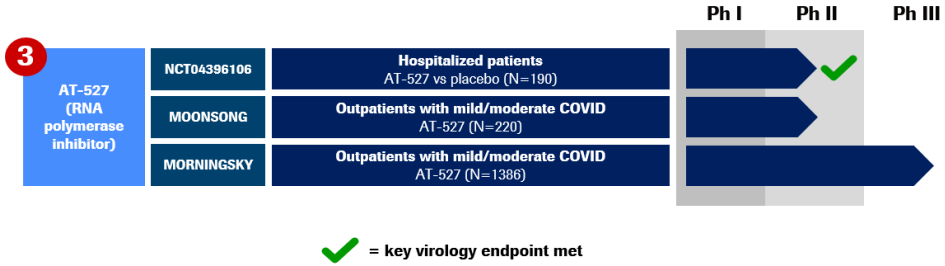
- Oral, direct acting antiviral (DAA)
- Inhibits SARS-CoV-2 viral replication via a unique dual mechanism of action: Inhibits both NiRAN and RdRp, potentially creating a high barrier to resistance
- Generally safe and well tolerated

Ph II interim results*



- Ph II in mild/moderate hospitalized patients ongoing; interim results indicate antiviral activity: 0.7log$_{10}$ reduction in viral titres at day 2; sustained viral reduction through day 8
- Ph II (MOONSONG) in outpatients evaluates alternative doses
- Ph III (MORNINGSKY) in outpatients achieved first-patient-in; results expected later in 2021

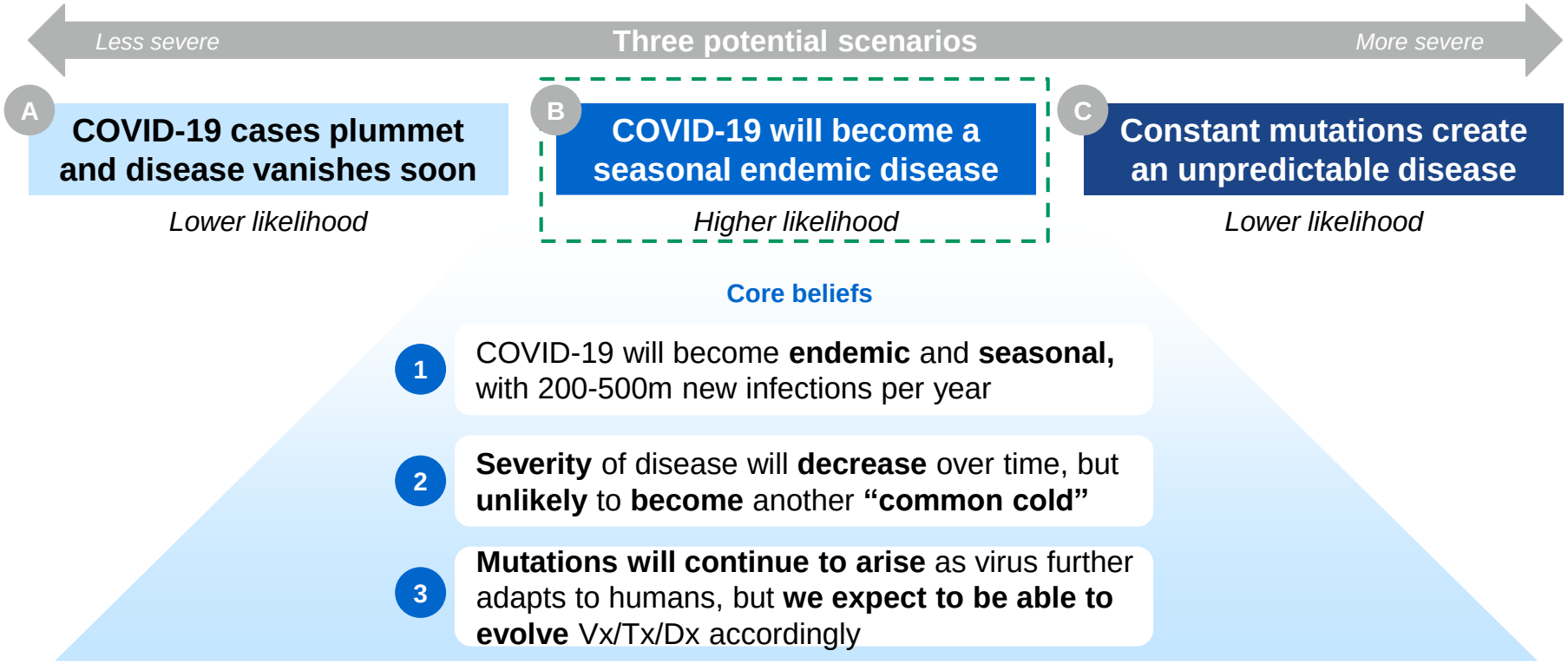
Ph III results expected end of 2021



NiRAN=Nidovirus RdRp-Associated Nucleotidyltransferase; RdRp=RNA-dependent RNA polymerase; *ATEA Pharmaceuticals presentation from June 30, 2021; AT-527 in collaboration with Atea Pharmaceuticals

SARS-CoV-2: Pandemic outlook

Three scenarios how the pandemic might evolve in coming years



COVID-19 is here to stay, and there will still be a need for new treatments and diagnostics

Roche medicines against SARS-CoV-2 expected to be used by millions of patients in coming years

Doing now what patients need next