ATEA Pharmaceuticals

# J.P. Morgan Healthcare Conference

January 11, 2021

NASDAQ: AVIR

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## Forward-Looking Statements

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, our clinical results and other future conditions. All statements other than statements of historical facts contained in this presentation are forward-looking statements, including statements by the Company regarding future results of operations and financial position, including our anticipated cash runway; business strategy; current and prospective product candidates; anticipated milestone events; potential benefits of our product candidates and market opportunity; planned clinical trials, including, without limitation, anticipated initiation, enrollment, regulatory submission and data readout timelines; preclinical activities; product approvals; manufacturing availability; degree of market acceptance of approved products; research and development costs; current and prospective collaborations, including our collaboration with Roche and potential milestones thereunder; and prospects and opportunities for investors. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "targets," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions.

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Market data and industry information used throughout this presentation are based on management's knowledge of the industry and the good faith estimates of management. We also relied, to the extent available, upon management's review of independent industry surveys and publications and other publicly available information prepared by a number of third-party sources. All of the market data and industry information used in this presentation involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Although we believe that these sources are reliable, we cannot guarantee the accuracy or completeness of this information, and we have not independently verified this information. While we believe the estimated market position, market opportunity and market size information included in this presentation are generally reliable, such information, which is derived in part from management's estimates and beliefs, is inherently uncertain and imprecise. No representations or warranties are made by the Company or any of its affiliates as to the accuracy of any such statements or projections. Projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described above. These and other factors could cause results to differ materially from those expressed in our estimates and beliefs and in the estimates prepared by independent parties.


# Rapidly advancing transformative therapies for patients with severe viral diseases

# Management Team With Deep Antiviral Discovery and Development Expertise and Track Record of Building Leading Life Science Companies

**Jean-Pierre Sommadossi, PhD**
*Founder, Chairman and CEO*
Previously, Principal Founder, Chairman and CEO of Idenix Pharmaceuticals
Co-Founder of Pharmasset

**Andrea Corcoran**
*CFO & General Counsel*
Previously, General Counsel and Secretary of Tolerx
General Counsel and Secretary of Idenix Pharmaceuticals

**Janet Hammond, MD, PhD**
*Chief Development Officer*
Previously, VP and Head of Development for Infectious Diseases at AbbVie
SVP and Global Head of Infectious Diseases at Roche

**John Vavricka**
*Chief Commercial Officer*
Previously, Founding CEO & President of Iroko Pharmaceuticals
VP, U.S. & European Commercial Operations for Novartis / Chiron Vaccines

**Arantxa Horga, MD**
*Chief Medical Officer*
Previously, VP, Pharmacovigilance and Medical Affairs at Biohaven Pharmaceuticals
VP, Head of Translational Medicine Infectious Diseases, Roche

**Jonae Barnes**
*SVP, Corporate Communications & Investor Relations*
Previously, SVP, Investor Relations, Corporate Communications & Public Relations at Poxel
VP, Investor Relations and Corporate Communications at Agenus

## PRIOR AFFILIATIONS

Shire · abbvie · NOVARTIS · Idenix Pharmaceuticals · biohaven pharmaceuticals · CHIRON (Acquired by Novartis) · Roche · VALEANT · PHARMASSET · SEPRACOR · Bristol-Myers Squibb · gsk GlaxoSmithKline · poxel

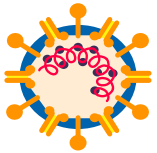
## MARKETED ANTIVIRALS

EPIVIR (lamivudine) · Tyzeka (telbivudine) · ZERIT · SOVALDI SOFOSBUVIR · xofluza (baloxavir marboxil) tablets · VALTREX VALACYCLOVIR HCl · REYATAZ (atazanavir) 200 mg/300 mg capsules · VIDEX EC (didanosine) · SUSTIVA (efavirenz) 600 mg tablets · RELENZA · Wellferon

ATEA Pharmaceuticals

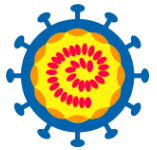
# Atea's Oral Platform has Potential to Transform Treatment of Severe Viral Diseases

A platform of **proprietary purine nucleotide and nucleoside prodrugs** designed specifically to target viral RNA polymerase



**Coronaviridae**
SARS, SARS-CoV-2, Human Seasonal Coronaviruses

**Flaviviridae**
HCV, Dengue, West Nile, Zika, Yellow Fever, Japanese Encephalitis



**Paramyxoviridae**
RSV, hMPV

## ADVANTAGES OF ATEA'S DRUG PLATFORM

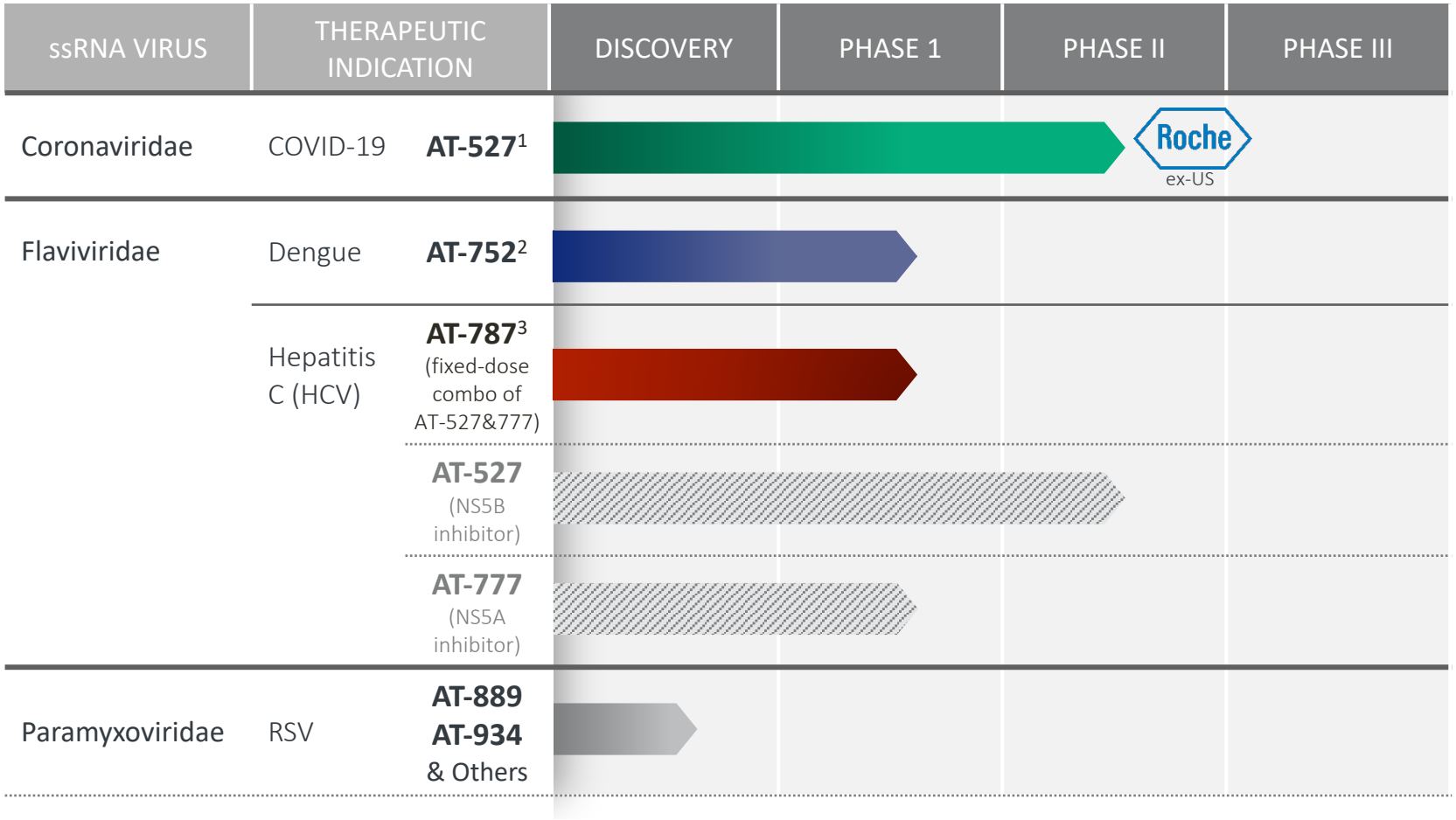
**Enhanced antiviral activity and selectivity** plus established pharmacology in animal models to predict viral efficacy

Favorable **safety**

**Convenience** of oral administration

Efficient and scalable **manufacturing**

# Atea's Platform Has Generated a Deep Antiviral Pipeline



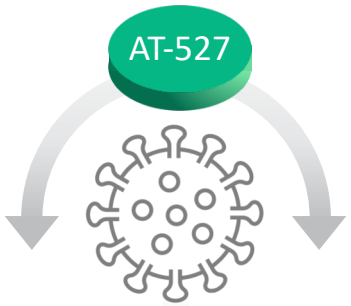

[1] Ex-US development and commercialization rights (other than for certain hepatitis C virus uses) licensed to Roche.
[2] Rights to develop and manufacture globally and to commercialize in the US for Dengue, among other viruses, retained. Ex-US commercialization subject to agreement with Roche.
[3] AT-787 is our selected product candidate for the treatment of HCV.

## INVESTMENT HIGHLIGHTS

- Projected near-term launch of AT-527, an oral DAA for COVID-19
- Transformational partnership with Roche for COVID-19
- Potential for multibillion-dollar market opportunity for pipeline products
- Multiple value-driving milestones over the next 18-months in several therapeutic indications
- $105.4 million in cash and cash equivalents as of 9/30/20 (does not include funds received in Q4/20 of:
  - $107.5 million from Series D1
  - $350 million payment from Roche
  - $317.6 million IPO net proceeds
- Cash runway through 2023

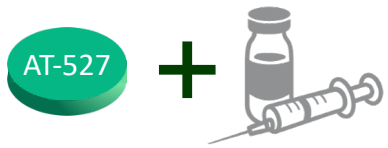
# Confronting COVID-19

# AT-527 Addresses Key Challenges of COVID-19 Pandemic and Beyond

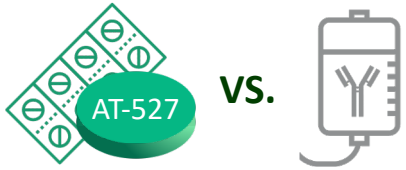



**Oral, safe, direct-acting antiviral suitable for easy and early administration to reduce burden and duration of disease**

- Can be used for **pre- or post-exposure** prophylaxis
- Potential **reduction in transmission of virus/infection**
- **Therapy** for vaccinated subjects with lack of immune response
- Potential impact on **long-term COVID sequelae**




**Complementary medical intervention to vaccination similar to the influenza paradigm** (Tamiflu®)




**Significant advantages vs. antibodies:**

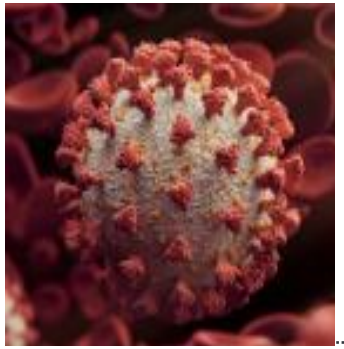
- convenient for patients and healthcare workers
- global reach
- manufacture
- scale-up
- cost

**Highly-conserved target assures antiviral activity** in the presence of multiple mutations

Antiviral activity against potential **future coronaviruses beyond SARS-CoV-2**

COVID-19

# AT-527 – Transformative Oral Treatment for COVID-19



| | Oral | Treatment | Potential for Early Treatment to Reduce Viral Infectivity | Pre / Post Exposure Prophylaxis Potential | Manufacturing | Potential Efficacy Despite Spike Mutations | Activity Against Future Corona Viruses Beyond SAR-CoV-2 | Lack of Mutagenicity | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Host | Virus |
| **AT-527** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remdesivir | | ✓ | | ✓ (Inhaled Only) | | ✓ | ✓ | ✓ | ✓ |
| Molnupiravir | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ? |
| Antibodies | | ✓ | | ✓ | | ? | ? | | |
| Vaccines | | | | ✓ (Pre-Exposure Only) | ✓ | ? | ? | | |

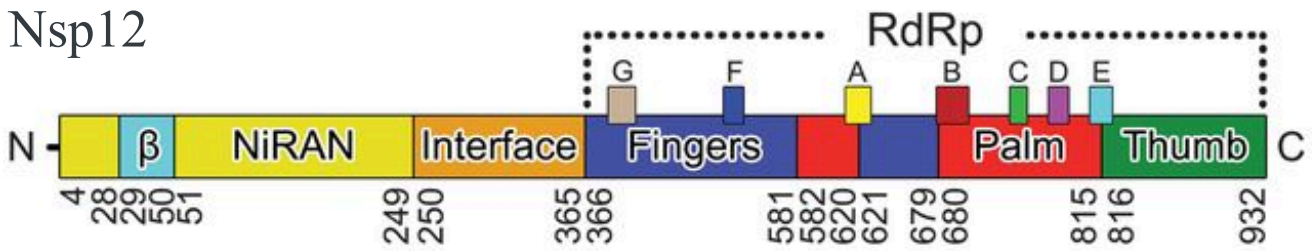
# *In vitro* Activity of AT-511 (free base of AT-527) Against SARS-CoV and SARS-CoV-2

| Virus (genus) | Cell line | Compound | Cytopathic Effect Assay $CC_{50}$ (µM) | Virus Yield Reduction Assay $EC_{90}$ (µM)(n) |
|---|---|---|---|---|
| SARS-CoV (beta) | Huh-7 | **AT-511** | >86 | 0.34 |
| SARS-CoV-2 (beta) | HAE | **AT-511**<br>molnupiravir<br>remdesivir | >86[a]<br>>19[a]<br>>8.3[a] | 0.47 ± 0.012 (5)<br>2.8 ± 1.0 (3)<br>0.002 to 0.27 (5) |

[a]Cytotoxicity assessed by visual inspection of cell monolayers
Huh-7, human hepatocyte carcinoma cell line (established ability to form triphosphate from AT-511)
HAE, human airway epithelial cell culture (established ability to form triphosphate from AT-511)

- AT-511 potently inhibited SARS-CoV and SARS-CoV-2 replication with no cytotoxicity observed up to 86 µM and an average $EC_{90}$ of 0.5 µM against SARS-CoV-2
- AT-511 was five- to eightfold more inhibitory against SARS-CoV-2 replication than molnupiravir, a nucleoside prodrug
- Substantial variability in remdesivir *in vitro* activity observed consistent with reports in literature, likely as a result of cytotoxicity and antiviral activity

# AT-527 Targets SARS-CoV-2 RNA Polymerase (nsp12), a Highly Conserved Gene, Thus Limiting Impact of Naturally-evolving Mutants




*Yan Gao et al. Science 2020;368:779*

- Non-structural protein (nsp) 12/7/8 polymerase complex is responsible for both viral RNA replication and transcription
- Nsp12 has two functional domains
  - RdRp = RNA-dependent RNA polymerase
  - NiRAN = Nidovirus RdRp-Associated Nucleotidyltransferase
- Impairment of NiRAN function leads to viral growth inhibition

# AT-527 Uniquely Inhibited Both Functions of nsp12 With More Pronounced Effect on NiRAN (Figures A and B) Than on RdRp (Figure C)

Figure A. Inhibition of NiRAN (nucleotidyltransferase)

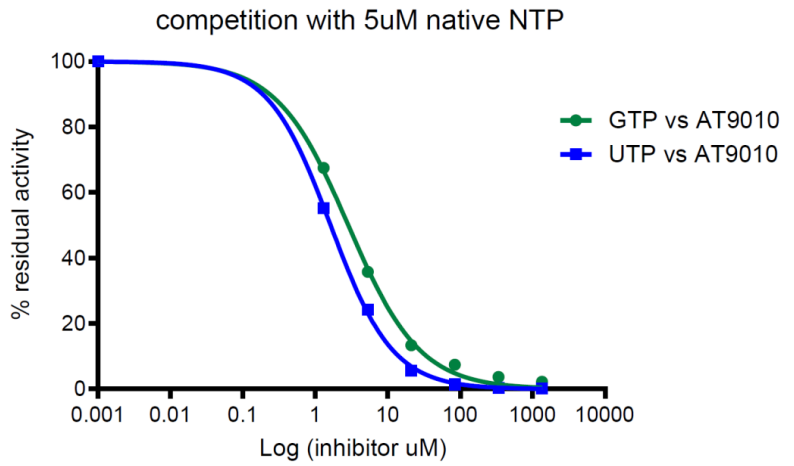



Figure B. Inhibition of NiRAN mediated protein primed RNA synthesis

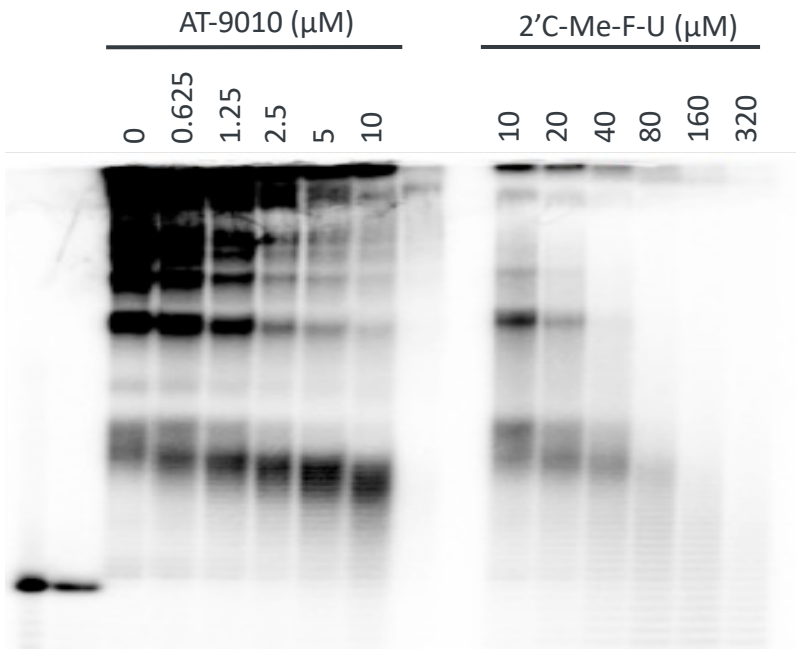
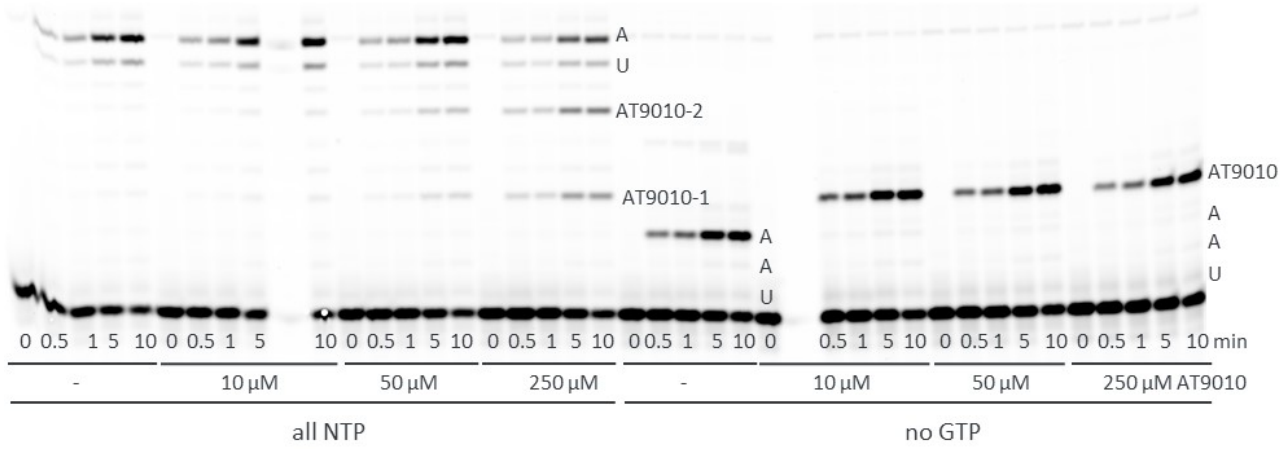
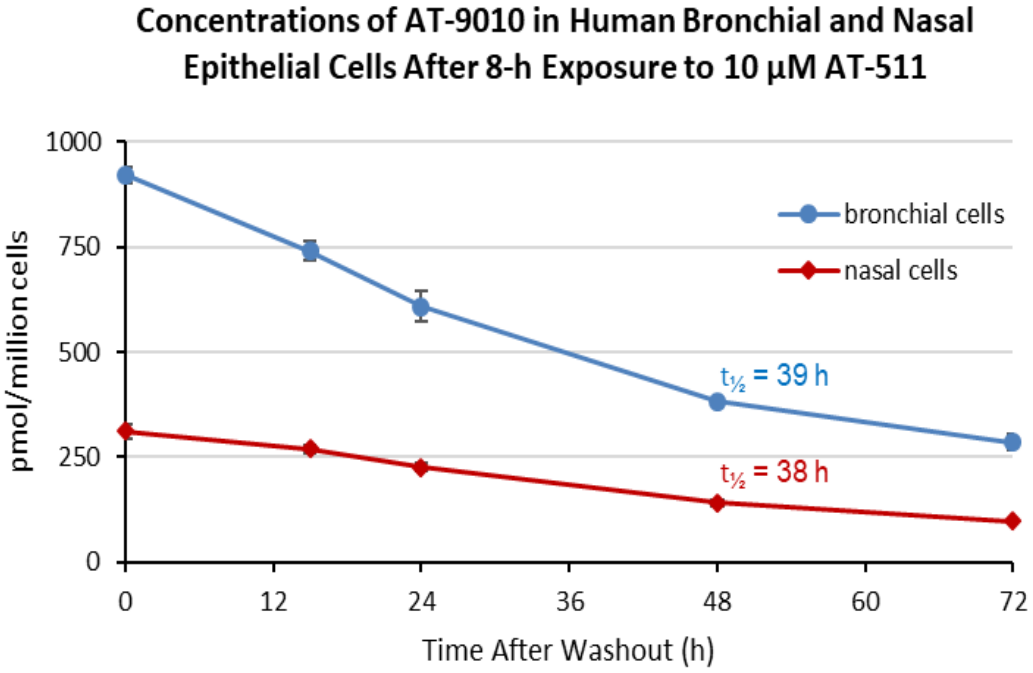



Figure C. Inhibition of RdRp (nucleotide incorporation and chain termination)




- Unpublished data from Prof. Bruno Canard (CNRS and Aix-Marseille Université)
- AT-9010 is the triphosphate active metabolite of AT-527

# High Intracellular Levels of AT-9010 (triphosphate active metabolite of AT-527) with Long Half-life ($t_{1/2}$) Over 1.5 Days Were Observed in Primary Human Nasal and Bronchial Epithelial Cells



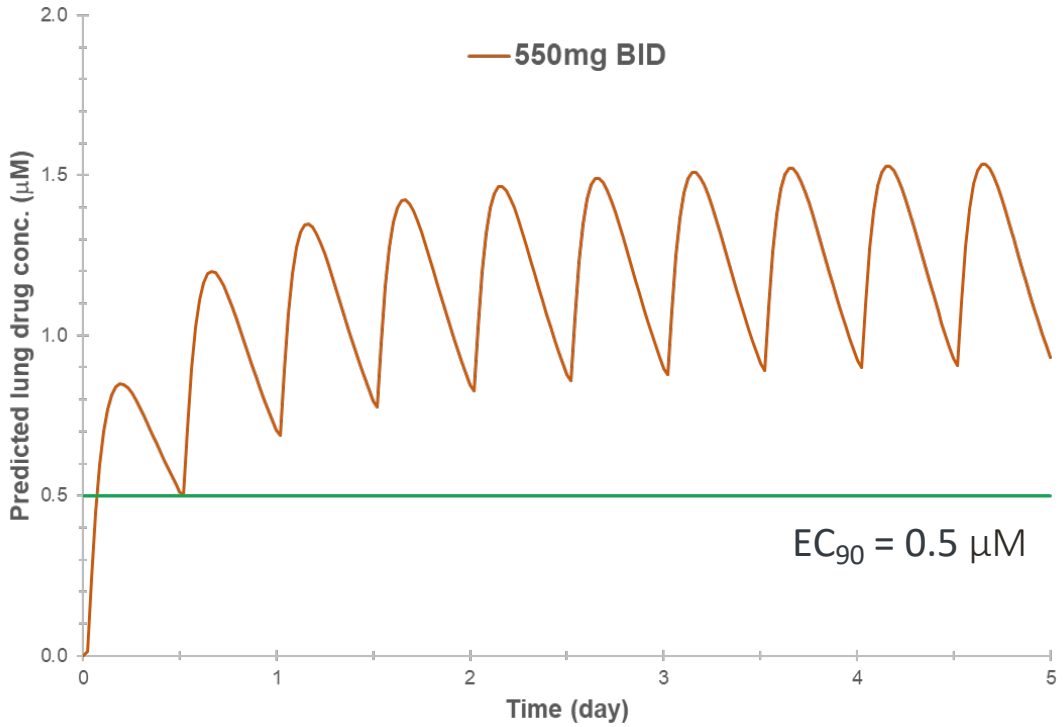

- Cells were exposed to 10 µM AT-511 for 8 hours
- Triphosphate levels determined at end of exposure (maximum concentration of AT-9010) and 15, 24, 48 and 72 hours post drug removal

- No toxicity was observed up to 100 µM
- Historical data[1]: remdesivir, at a normalized dose of 10 µM, had about 7-fold lower triphosphate active metabolite concentration in primary human epithelial cells as compared to AT-511



[1]Pruijssers, A.J. et al. https://doi.org/10.1101/2020.04.27.064279

# Clinical Dosing Regimen (550mg BID) Selected to Achieve Effective Concentrations in Lungs Against SARS-CoV-2




Simulated human steady-state lung AT-9010 levels based on published[1] human plasma AT-273 pharmacokinetics (surrogate for intracellular concentrations of the active TP) corrected for observed higher steady-state trough (12-h) AT-9010 concentrations in NHP lung vs. liver



[1]Berliba, e. et al. 2019 Antimicrob. Agents Chemother. 63(12):e01201-19. https://doi.org/10.1128/AAC.01201-19

# AT-527

## Clinical Development and Commercialization Plans for COVID-19

AT-527

# Multiple Clinical Trials Active & Reporting Results in 2021 and 2022

| TRIAL | DESCRIPTION | TIMING |
|---|---|---|
| **Phase 1**<br>Healthy Volunteers | PK safety study | 1Q 2021 Results |
| **Phase 2**<br>Hospitalized Patients with Moderate COVID-19 | Safety and tolerability with reduction in progressive respiratory insufficiency | 1H 2021 Ongoing<br>1H 2021 Results |
| **Phase 2**<br>Intensive Virology Study | Antiviral activity of AT-527 compared with placebo in outpatients<br><br>Safety, PK, PK/PD | 1Q 2021 Initiation<br>1H 2021 Results |
| **Phase 3**<br>Registrational Trial* | Time to alleviation of symptoms/medically attended visits and utilization of healthcare in outpatients | 1H 2021 Initiation |
| **Supplemental Phase 3**<br>Prophylaxis Study* | Evaluate efficacy of AT-527 preventing infection of SARS-CoV-2 to contacts | 2H 2021 Initiation |

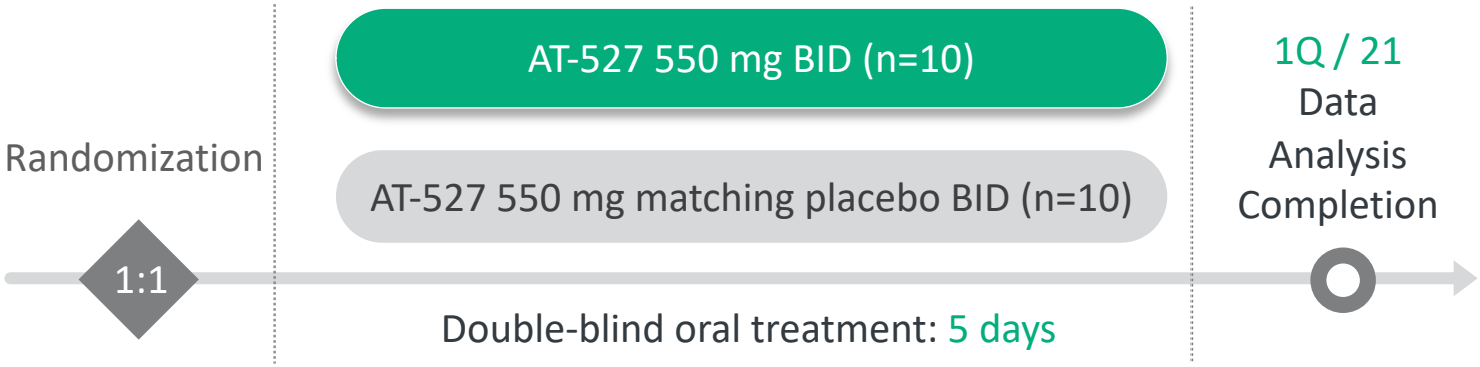
*Details to be finalized following consultation with regulatory authorities

AT-527

# Phase 1 Safety and Pharmacokinetics (PK) in Healthy Volunteers

**Inclusion Criteria:** healthy male and female (N=20) subjects 18-65 years of age

**Country:** Canada




**Study objectives:** Safety and PK of 550 mg BID dosing regimen

**Results:**

- All subjects completed study
- No SAEs/discontinuations
- Few AEs reported; all mild and resolved
- PK analysis ongoing

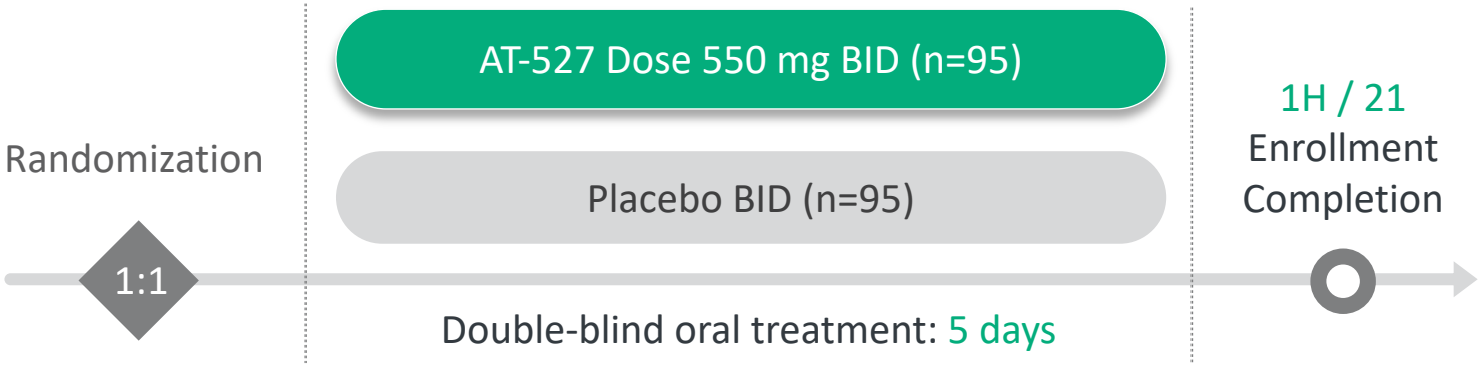
Safety data support continued evaluation of 550 mg BID regimen in phase 3 studies

AT-527

# Ongoing Phase 2 Trial in Hospitalized Patients with Moderate COVID-19 (n=190)

**Inclusion Criteria:** adult patients (≥ 18 years old) with risk factors (obesity, diabetes, hypertension), symptoms for ≤ 5 days

**Countries**: US, Europe, Brazil, South Africa and Egypt




## Primary and Key Secondary Objectives:

- Safety and tolerability
- Significant reduction in progressive respiratory insufficiency
- Improvement vs. worsening in the NIAID ordinal scale of overall clinical status
- Time to clinical recovery
- Duration of hospitalization
- Time to non-detectable SARS-CoV-2
- PK/PD substudy

## Results:

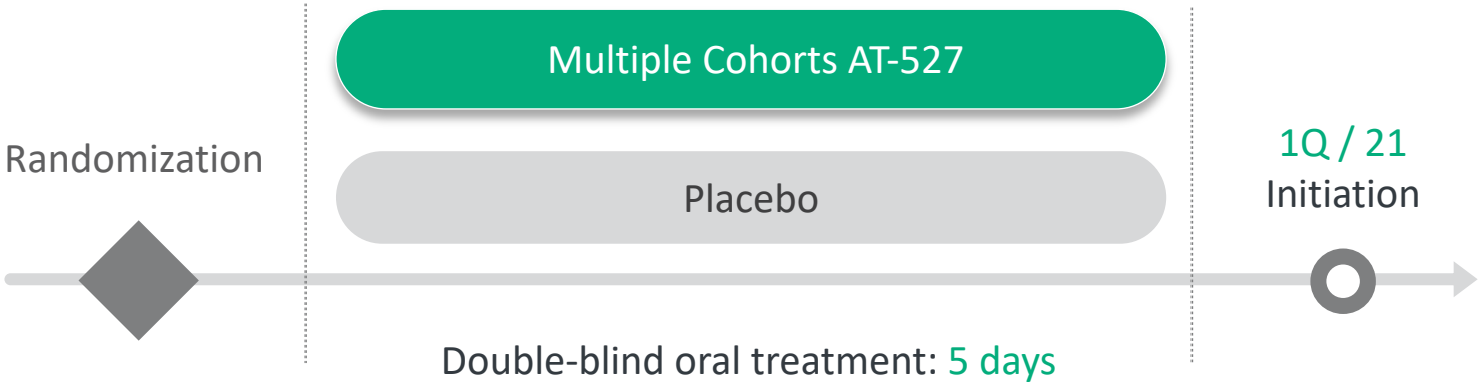
- DSMB meeting recently completed safety data review of the second cohort (40 patients total)
  - DSMB recommended study to continue without modifications
- Subsequent DSMB reviews planned at 50% and 75% enrollment
- Data continue to support the favorable safety profile and continued evaluation of AT-527

AT-527

# Phase 2 Intensive Virology Study in Outpatients

**Inclusion Criteria:** > 18 yrs old, SARS-CoV-2 positive 72 hrs prior to randomization, mild-to-moderate COVID-19 patients in outpatient setting

**Countries**: UK




## Primary and Secondary Objective:

- To evaluate antiviral activity of AT-527 550 mg BID compared with placebo
- Safety, PK, PK/PD

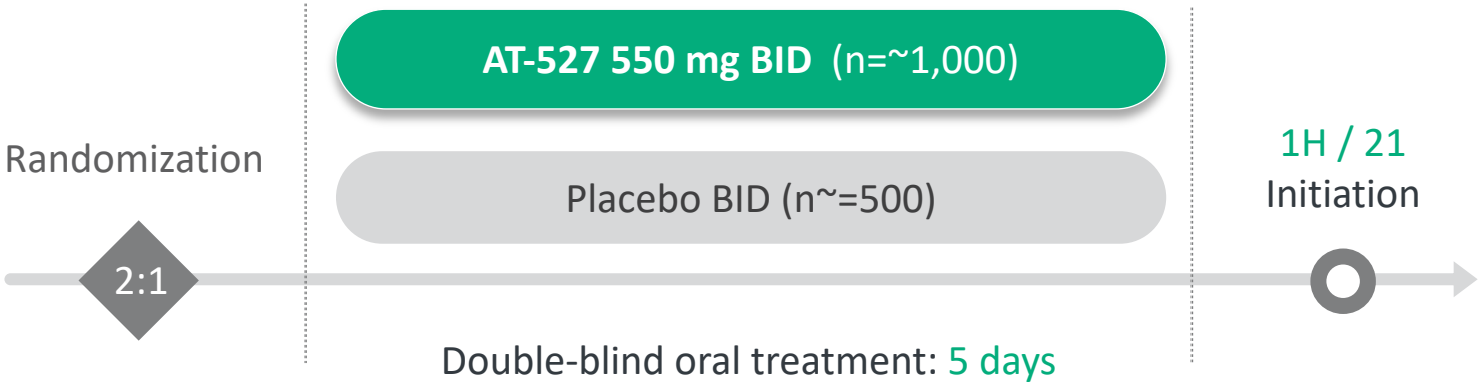
## Status:

- Protocol approved by UK regulatory authorities
- Initiation 1Q

AT-527

# Global Phase 3 Registrational Trial* in Outpatients

**Inclusion Criteria**: Patients eligible for management in an outpatient setting




## Objectives:

- Time to alleviation or improvement of COVID-19 symptoms maintained for 24 hours (through 28 days)
- Medically attended visits and utilization of healthcare (including hospitalization)

## Status:

- Supportive feedback from EMA CHMP, FDA feedback pending
- Patients could be rolled over to a LTFU study
- Global footprint



*Details to be finalized following consultation with regulatory authorities

AT-527

# Strategic Partnership with Roche to Develop and Commercialize AT-527 for COVID-19 Outside the U.S.

Roche

Roche's unparalleled capabilities and global reach in antiviral development, manufacturing and diagnostics are highly complementary to Atea's internal efforts

- Atea received $350 million cash upfront in November 2020
- Joint global development 50/50 cost-sharing
- Potential for up to $330 million in development and regulatory milestones
- Potential for up to $320 million for certain sales-based milestones
- Tiered royalties on net sales ranging from low double-digit to mid-twenties

ATEA Pharmaceuticals

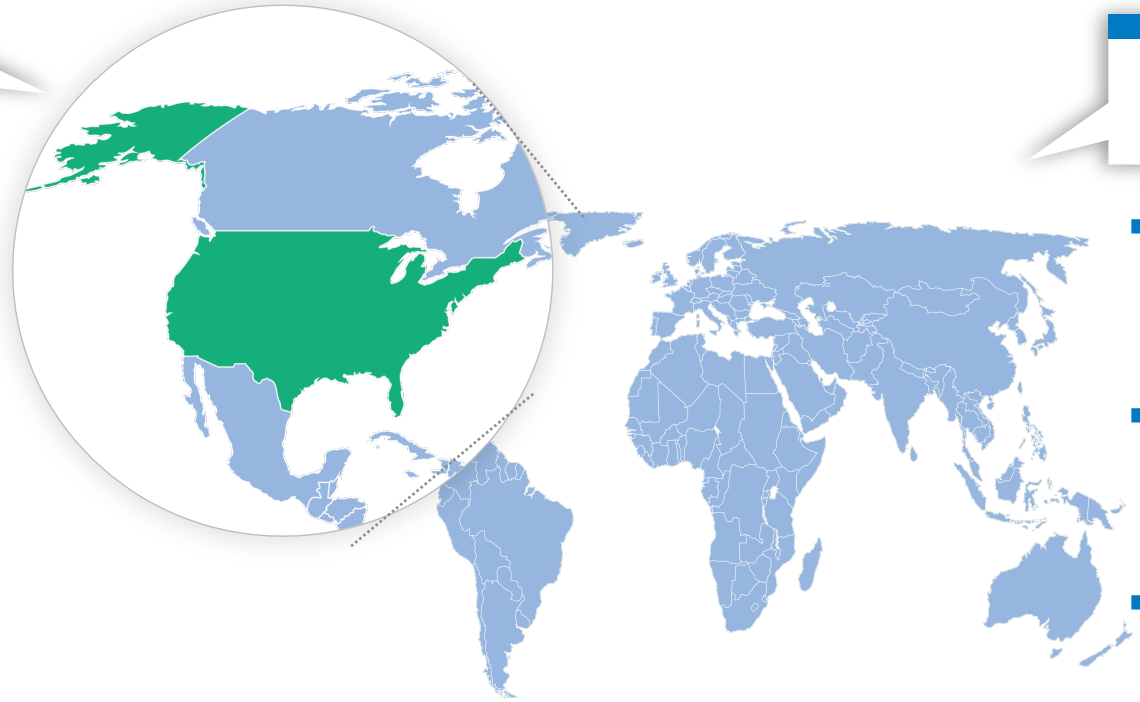
AT-527

# Atea and Roche Commercialization Strategy for COVID-19 Treatment / Prophylaxis & Stockpile

**Atea U.S. Commercialization**

Stockpiling and Active Disease

- Atea retains rights to commercialize in U.S.
- Roche has exclusive rights to commercialize ex-U.S.
- Option exercisable at Atea direction to co-promote in U.S. with Roche Genentech



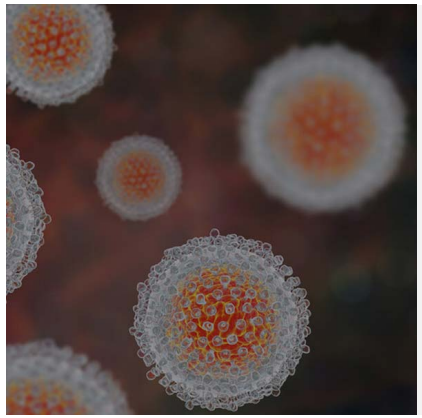
**Roche Manufacturing / Ex-U.S. Commercialization**

- Inventory of drug product sufficient for all currently planned trials
- Ongoing manufacture of 500K campaign sufficient for 85K patients
- Rapid scaling of GMP synthetic process to multi-metric ton capacity currently in-process
- Commercial responsibilities include:
  - Distribution
  - Pricing
  - Government Relations

# AT-752

## Dengue Fever Program

# Dengue Fever: High Mortality and High Unmet Medical Need



**Painful, debilitating mosquito born disease**

- Caused by 5 serotypes
- Symptoms 3-14 days post-infection with high fever 2-7 days

**No antiviral treatments available**

- Only supportive care (analgesics, judicious fluid therapy)
- Dengvaxia® (for prevention) was approved in 2017 with a restricted label

| | |
|---|---|
| **3.9B** | People live in high-risk areas* |
| **400M** | Estimated infected annually |
| **12-44%** | Severe Dengue mortality rate if left untreated |
| **500,000** | Cases develop into Dengue hemorrhagic fever annually, requiring hospitalization (approx. 2.5% mortality rate) |

## AT-752: Promising product profile for oral treatment & prophylaxis

- Purine nucleotide prodrug with potent *in vitro* activity ($EC_{90}$~ 0.6 µM) against all serotypes tested as well as **major potency against Zika, West Nile, Yellow Fever, and Japanese Encephalitis viruses**.
- MOA: inhibition of Dengue viral polymerase
- Potent *in vivo* activity in a Dengue fever animal model and no toxicity up to 1g/kg/day in preclinical toxicology studies
- Worldwide intellectual property protection



*More than 100 countries in Southeast Asia, Western Pacific, Eastern Mediterranean, Latin America and Puerto Rico; 2.3M in the Americas alone, causing ≥ 1, 200 deaths

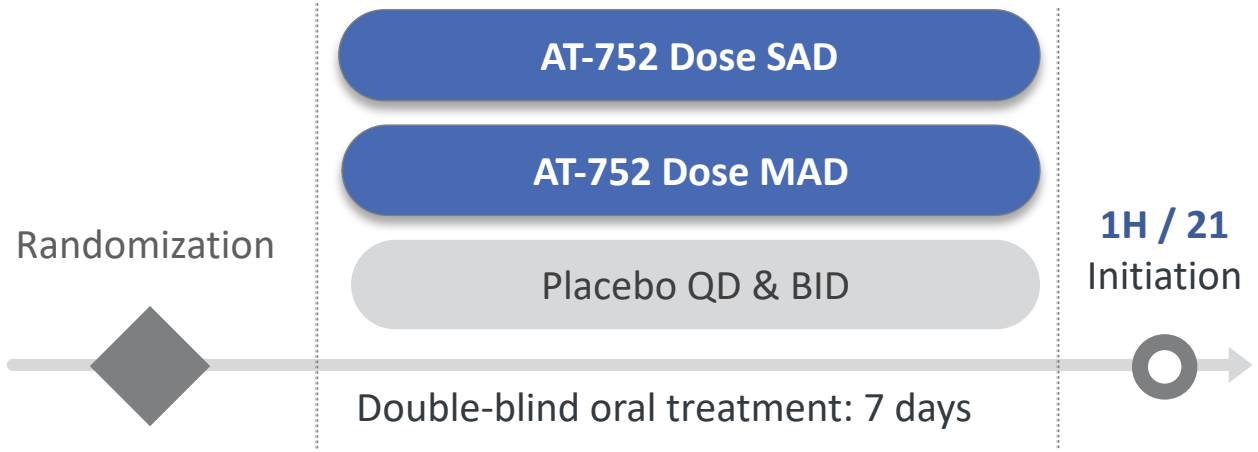
ATEA Pharmaceuticals

# Phase 1a and Phase 1b Clinical Studies* for the Treatment of Dengue Fever

**Inclusion Criteria**: healthy volunteers, sequential dose-escalation
**Country:** Australia

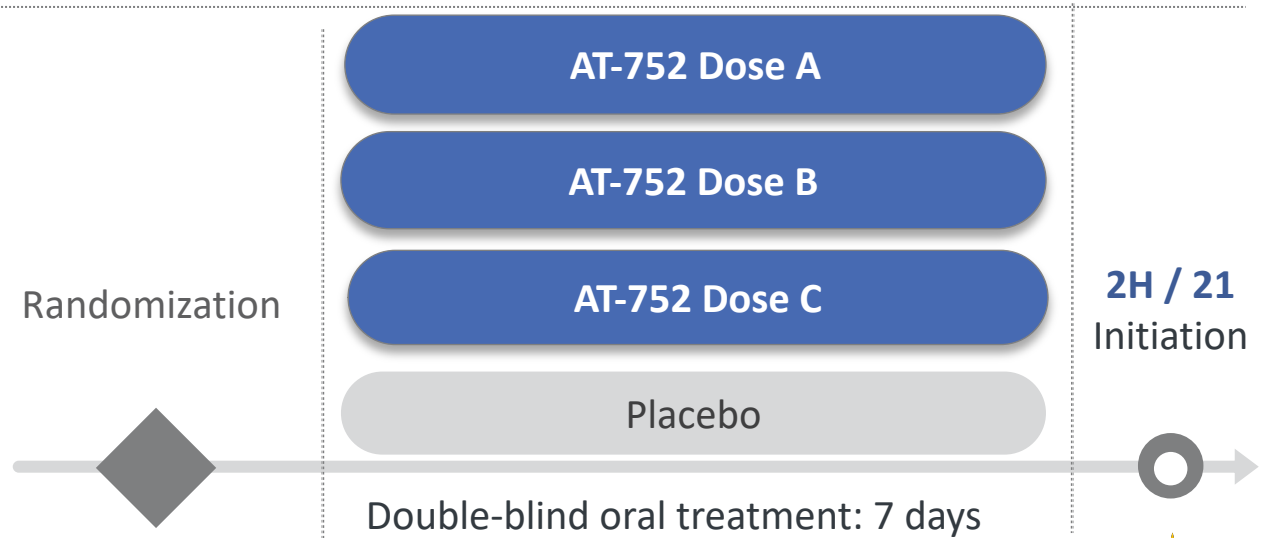
**Objectives:** Safety and PK (with embedded food effect)

- CTA filed December 2020
- Part I: Single ascending dose escalation
- Part 2: Multiple dose QD and BID for 7 days




**Inclusion Criteria**: adults with fever (≥38°C) for less than 48h with probable infection and positive result on a dengue point-of-care test kit or PCR assay
**Geography**: South East Asia

**Objectives:** Antiviral activity, viral kinetics, safety and PK



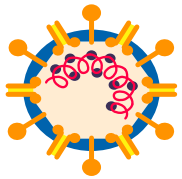



*Details to be finalized following consultation with regulatory authorities

# Corporate

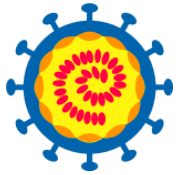
# Atea Investment Highlights

## Premier Proprietary Antiviral Platform



**Coronaviridae**
SARS, SARS-CoV-2, Human Seasonal Coronaviruses

**Flaviviridae**
HCV, Dengue, West Nile, Zika, Yellow Fever, Japanese Encephalitis



**Paramyxoviridae**
RSV, hMPV

- Targeting complex viral diseases with significant unmet medical needs
- Projected near-term launch of AT-527 for the treatment of COVID-19 in partnership with Roche
- Medical intervention complementary to vaccines
- Oral administration maximizes global reach
- Multi-billion-dollar market opportunity
- Well capitalized with a cash runway through 2023

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