ATEA Pharmaceuticals

Full Year 2020 Financial Results and Corporate Update

March 30, 2021

NASDAQ: AVIR

DISCLAIMERS

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.

The information in this presentation, including without limitation the forward-looking statements contained herein, represent our views as of the date of this presentation. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Risks and uncertainties that may cause actual results to differ materially include uncertainties inherent in the drug development process and the regulatory approval process, in particular for AT-527, our reliance on third parties over which we may not always have full control, competition for vaccines and other treatments for COVID-19, risks related to the COVID-19 pandemic on our business, and other important risks and uncertainties that are described in our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission ("SEC") on December 10, 2020 and our other filings with the SEC. New risk factors and uncertainties may emerge from time to time, and it is not possible to predict all risk factors and uncertainties. Accordingly, readers are cautioned not to place undue reliance on these forward-looking statements.

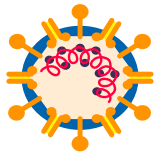
Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. No representations or warranties (expressed or implied) are made about the accuracy of any such forward-looking statements.

Industry Information

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.

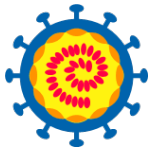
Atea's Oral Platform has Potential to Transform Treatment of Severe Viral Diseases

A platform of **proprietary 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**

2020-1Q 2021 Summary of Significant Milestone Achievements

Substantial Clinical Progress with AT-527 and AT-752 and Corporate Highlights

AT-527 Achievements and Highlights:

- ✓ Ongoing Phase 2 trial in hospitalized patients
- ✓ Ongoing Phase 2 trial in outpatient setting
- ✓ Ongoing preparations for global Phase 3 program in outpatient setting
- ✓ Manuscript published in Antimicrobial Agents and Chemotherapy (AAC)
- ✓ Phase 1 results presented at Conference on Retroviruses and Opportunistic Infections (CROI)
- ✓ Invited presentation at International Conference on Antiviral Research (ICAR)
- ✓ Manuscript submitted on MOA of AT-527 regarding unique interaction of active triphosphate metabolite against SARS-CoV-2 RNA polymerase

AT-752 Achievements:

- ✓ Clinical Trial Application (CTA) filed
- ✓ Phase 1a initiated March 2021

Corporate Highlights

- ✓ Expansion of the senior management team and Board of Directors
- ✓ Inclusion in Russell 2000® index

ATEA Pharmaceuticals

2020 Summary of Significant Milestone Achievements

Signed Strategic Partnership with Roche -- Completed Crossover and IPO Financing -- Exited 2020 in a Strong Financial Position

Roche to Develop and Commercialize Ex-US:

- Received **$350 million** cash upfront in Nov. 2020
- Joint global development **50/50 cost-sharing**
- Roche responsible for **global manufacturing**
- 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

Financial Highlights

$215.0 million Raised in Series D and D1 with blue chip investors

$317.6 million Nasdaq IPO net proceeds

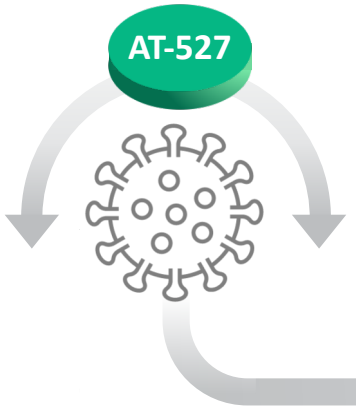
$850.1 million Cash and cash equivalents as of 12/31/2020

Cash runway through 2023


Confronting COVID-19
with AT-527

COVID-19

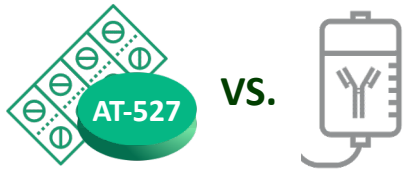
AT-527 Potentially Addresses Key Challenges of COVID-19 Pandemic and Beyond



Oral, 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®)



Antiviral advantages vs. antibodies:

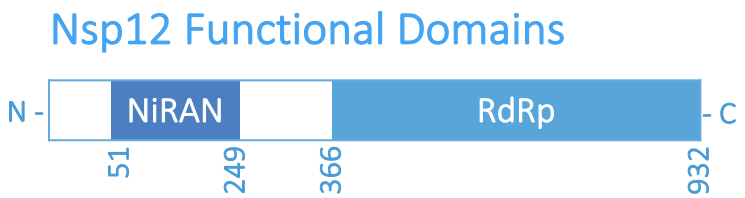
- convenient for patients and healthcare workers
- global reach
- manufacture
- scale-up
- cost

Highly-conserved target enzyme should enable antiviral activity in the presence of multiple mutations

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

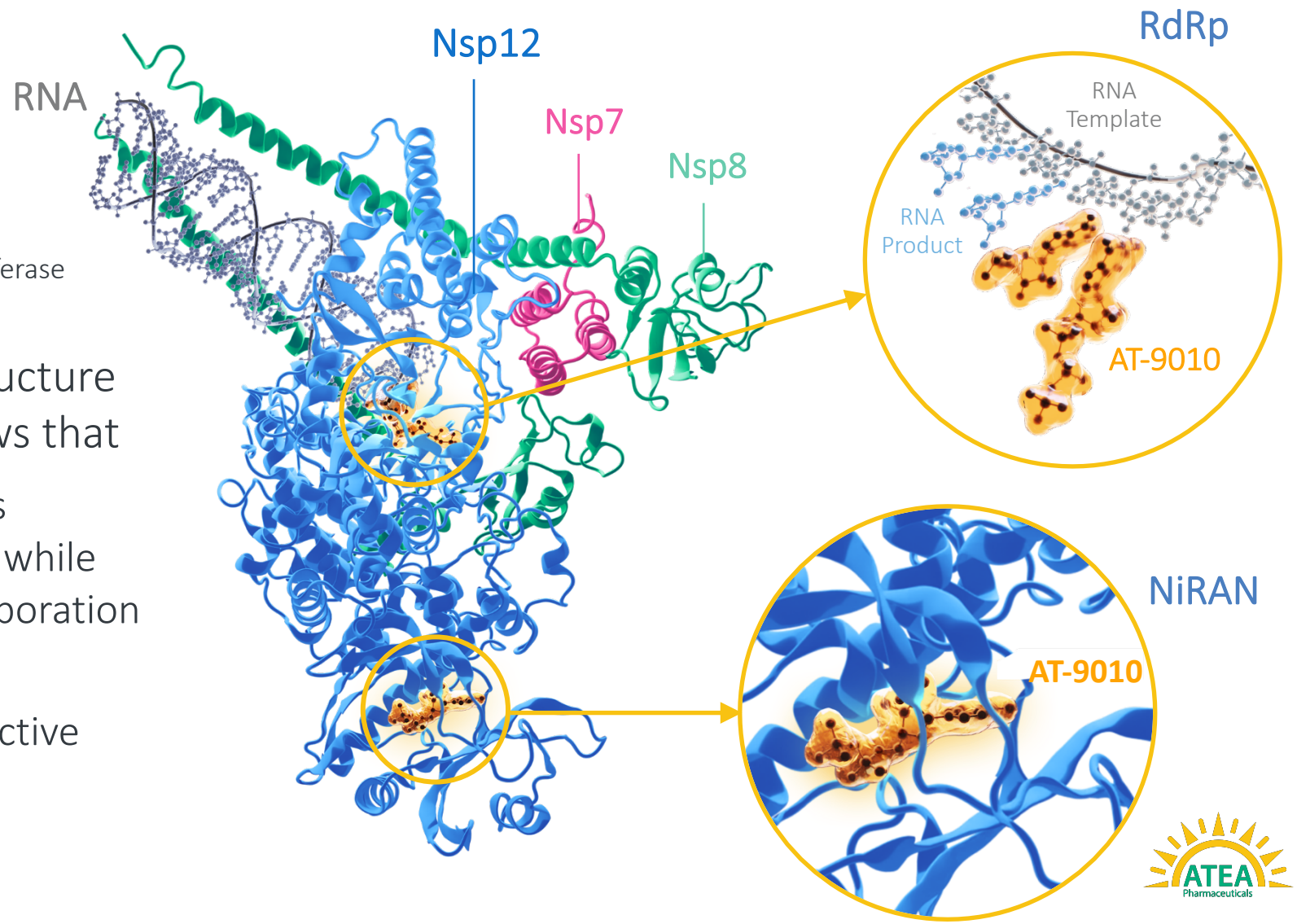
COVID-19

AT-9010, the TP Active Metabolite of AT-527, Binds to Both RdRp & NiRAN Active Sites of Nsp12



RdRp = **R**NA-**d**ependent **R**NA **p**olymerase
NiRAN = **Ni**dovirus **R**dRp-**A**ssociated **N**ucleotidyltransferase

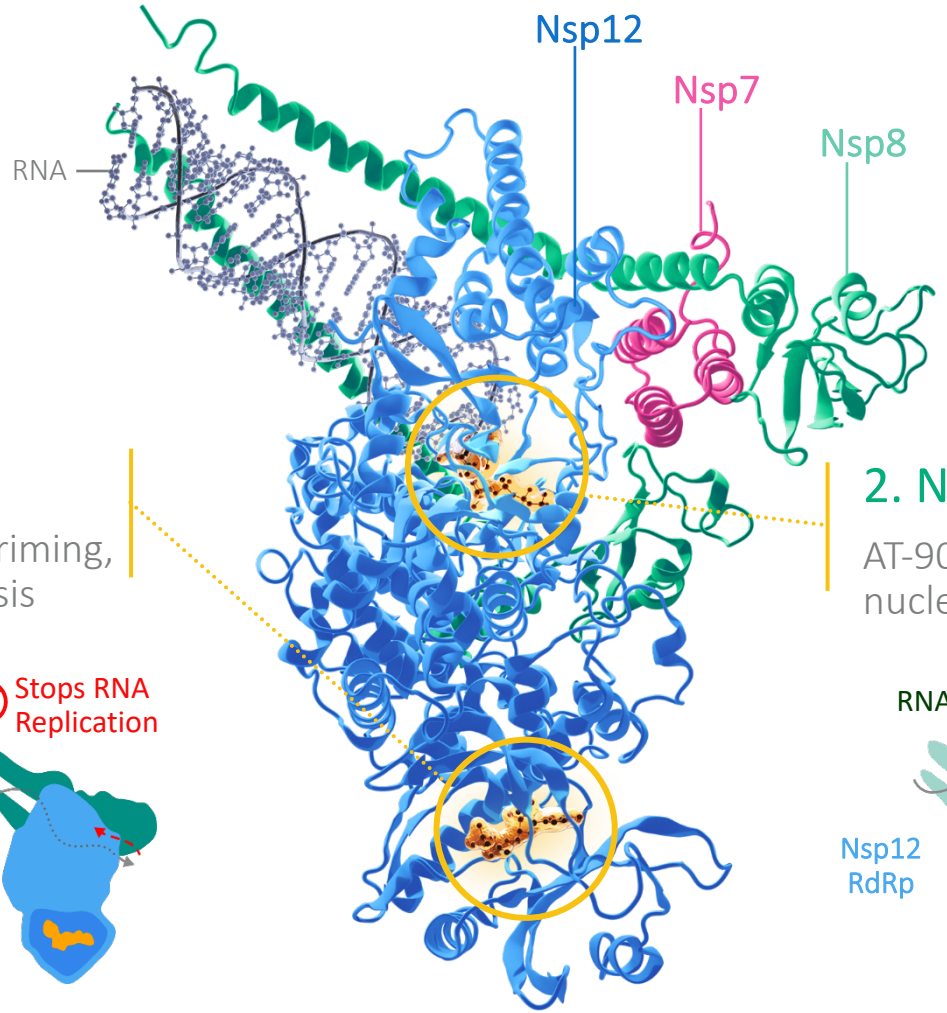
- A 2.98 Å cryo-EM quaternary structure of Nsp12/7/8/RNA/AT-9010 shows that
  - Two AT-9010 bind to RdRp: one is incorporated into RNA template, while the second is stalled at pre-incorporation state, causing chain termination
  - A third AT-9010 binds to NiRAN active site, blocking its function



COVID-19

AT-527 Inhibits Production of the Virus by Blocking Two Distinct Pathways of SARS-CoV-2 Replication

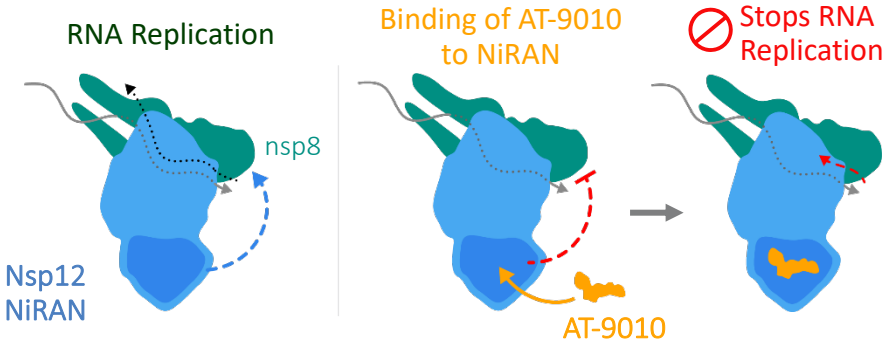
AT-9010
(Active triphosphate metabolite of AT-527)



SARS-CoV-2 Replication/ Transcription Complex

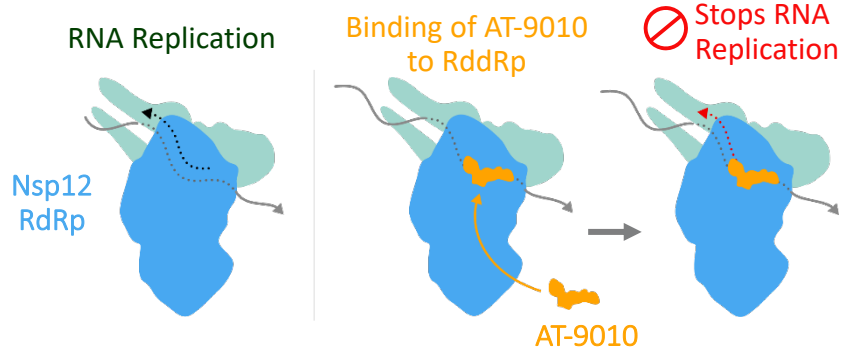
1. NiRAN-dependent Pathway

AT-9010 binds to NiRAN, inhibits nsp8 priming, and blocks initiation of viral RNA synthesis



2. NiRAN-independent (RdRp) Pathway

AT-9010 locks into RdRP active site and prevents nucleotide incorporation



ATEA Pharmaceuticals

AT-527

Clinical Development Update

COVID-19

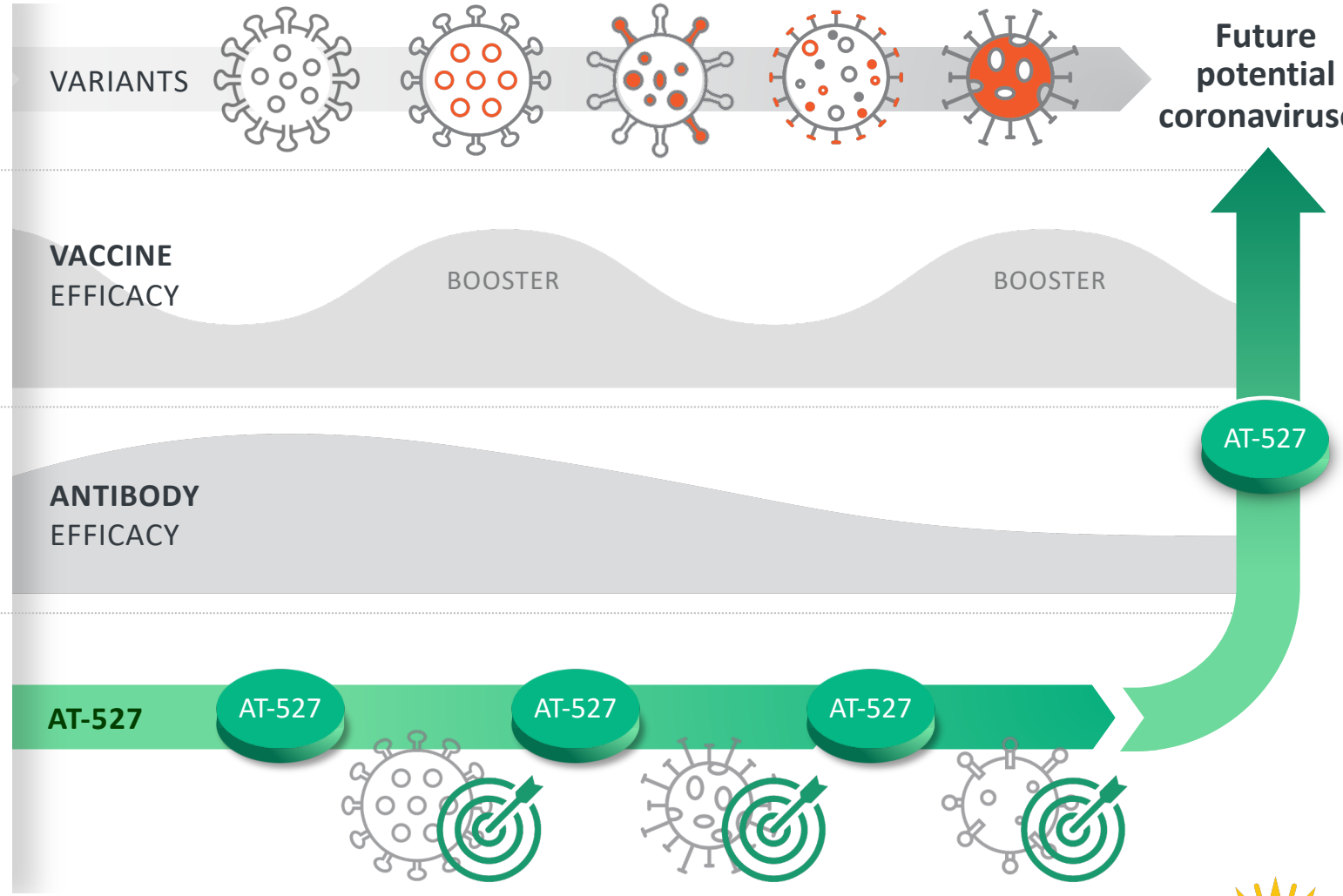
Multipronged Approach Needed for COVID-19 Challenges with Emerging Variants

Variants are emerging with variable virulence

Vaccine efficacy uncertain with emerging variants; time will be needed to develop boosters and manufacture them

Antibody efficacy is decreasing or variable with emerging variants

AT-527 targets SARS-CoV-2 RNA polymerase (nsp12), a highly conserved gene, thus limiting impact of naturally-evolving mutants



AT-527

Multiple Clinical Trials Active & Reporting Results in 2021 and 2022

TRIAL	DESCRIPTION	TIMING
Phase 1 Healthy Volunteers	PK safety study, clinical pharmacology and regulatory required drug-drug interaction trials	Positive results announced with first cohort; Ongoing
Phase 2 Hospitalized Patients with Moderate COVID-19	Safety and tolerability with reduction in progressive respiratory insufficiency	Ongoing 2Q 2021 Interim Virology Data
Phase 2 Intensive Virology Study	Antiviral activity of AT-527 compared with placebo in outpatients Safety, PK, PK/PD	Ongoing 2Q 2021 Interim Virology Data
Phase 3 Registrational Trial*	Time to alleviation of symptoms/medically attended visits, utilization of healthcare in outpatients and virological endpoints	2Q 2021 Initiation
Supplemental Phase 3 Prophylaxis Study*	Evaluate efficacy of AT-527 preventing infection in SARS-CoV-2 contacts of patients	2H 2021 Initiation

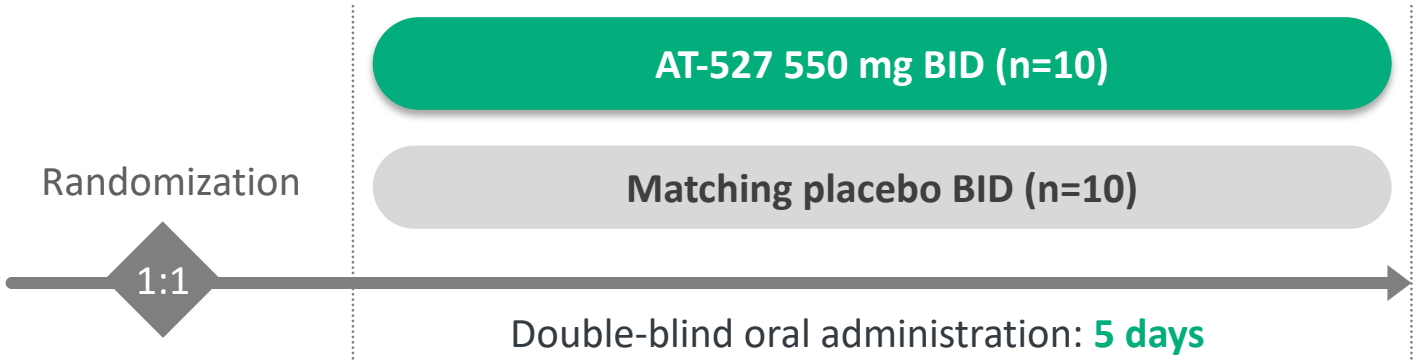
*Details to be finalized following consultation with regulatory authorities.

AT-527

Positive AT-527 Phase 1 Results Demonstrated Favorable PK, Safety and Support Dosing Regimen

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

Country: Canada NCT04711187



Study objectives:

Safety and PK of 550 mg BID dosing regimen

Population and Safety Summary

- Healthy volunteers were mostly male (80%), white (95%), with mean age of 47.3 years old
- All participants completed study
- AT-527 was well-tolerated
- No SAEs/discontinuations
- Four participants (two in each arm) reported non-serious AEs
  - None were treatment-related; all resolved
- No clinically significant laboratory or ECG abnormalities

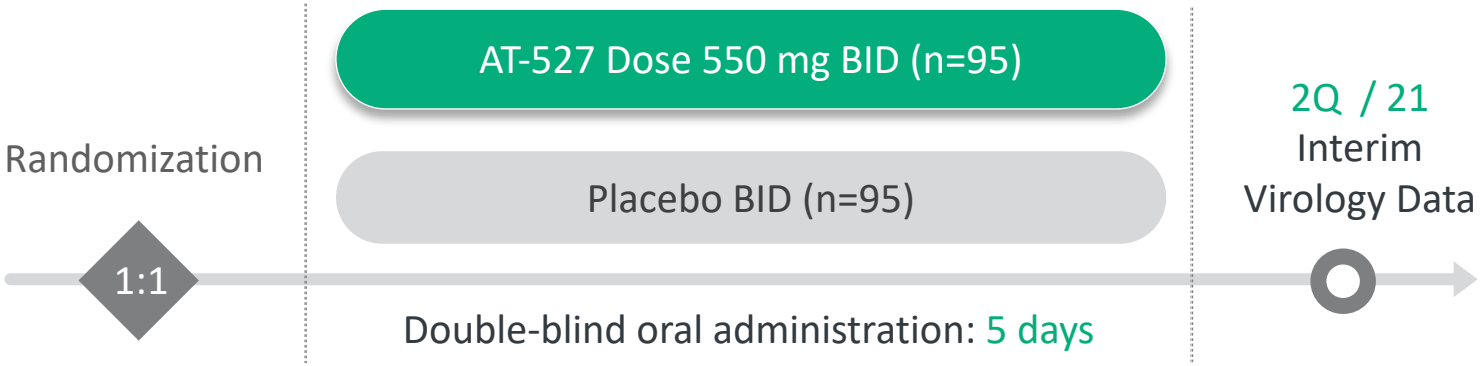
Results presented March 6, 2021 in scientific spotlight session at CROI

AT-527

Ongoing Phase 2 Trial in Hospitalized Patients with Moderate COVID-19

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

Progress:

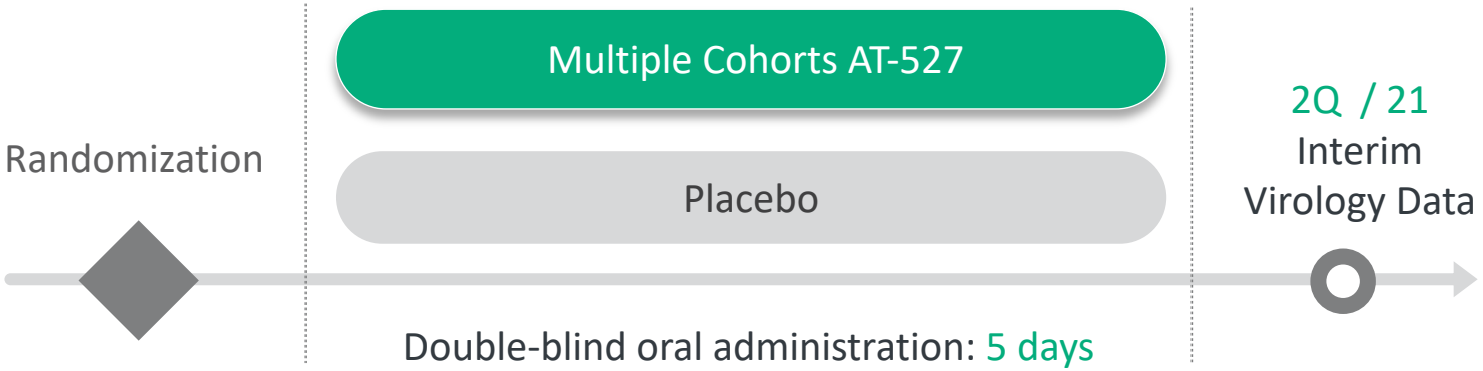
- Potential opportunity to obtain antiviral efficacy with variants and sequence the virus (Brazil, South Africa and other countries)
- No drug related SAEs to-date
- Data continue to support the favorable safety profile and continued evaluation of AT-527
- Next DSMB review planned at 50% of total enrollment

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, Ireland and other countries



Primary and Secondary Objective:

- To evaluate antiviral activity of AT-527 550 mg BID compared with placebo in up to 220 patients
- Safety, PK, PK/PD

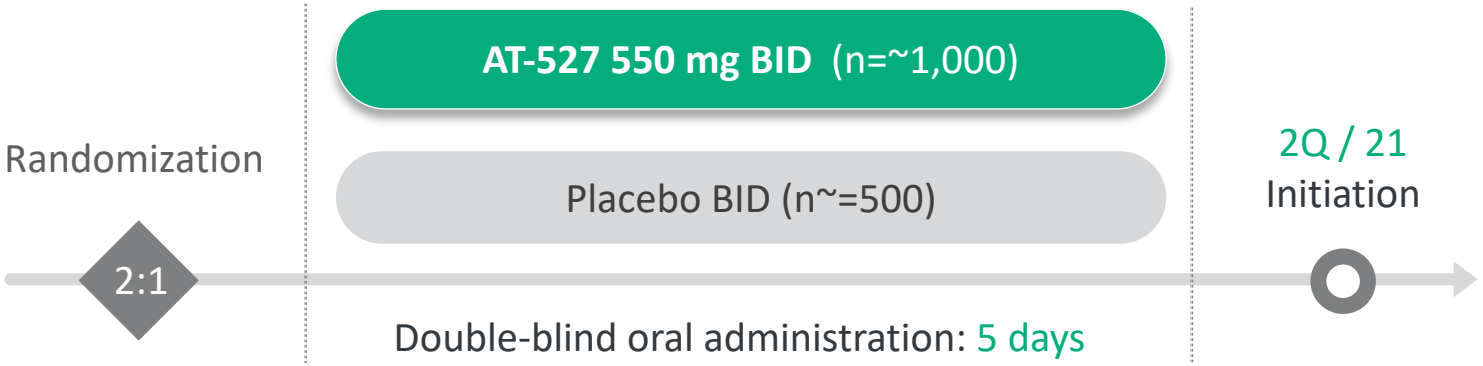
Status:

- Expanding geographical footprint
- Opportunity to understand antiviral effect in outpatient setting and to evaluate patients with UK variant

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)
- Virological endpoints

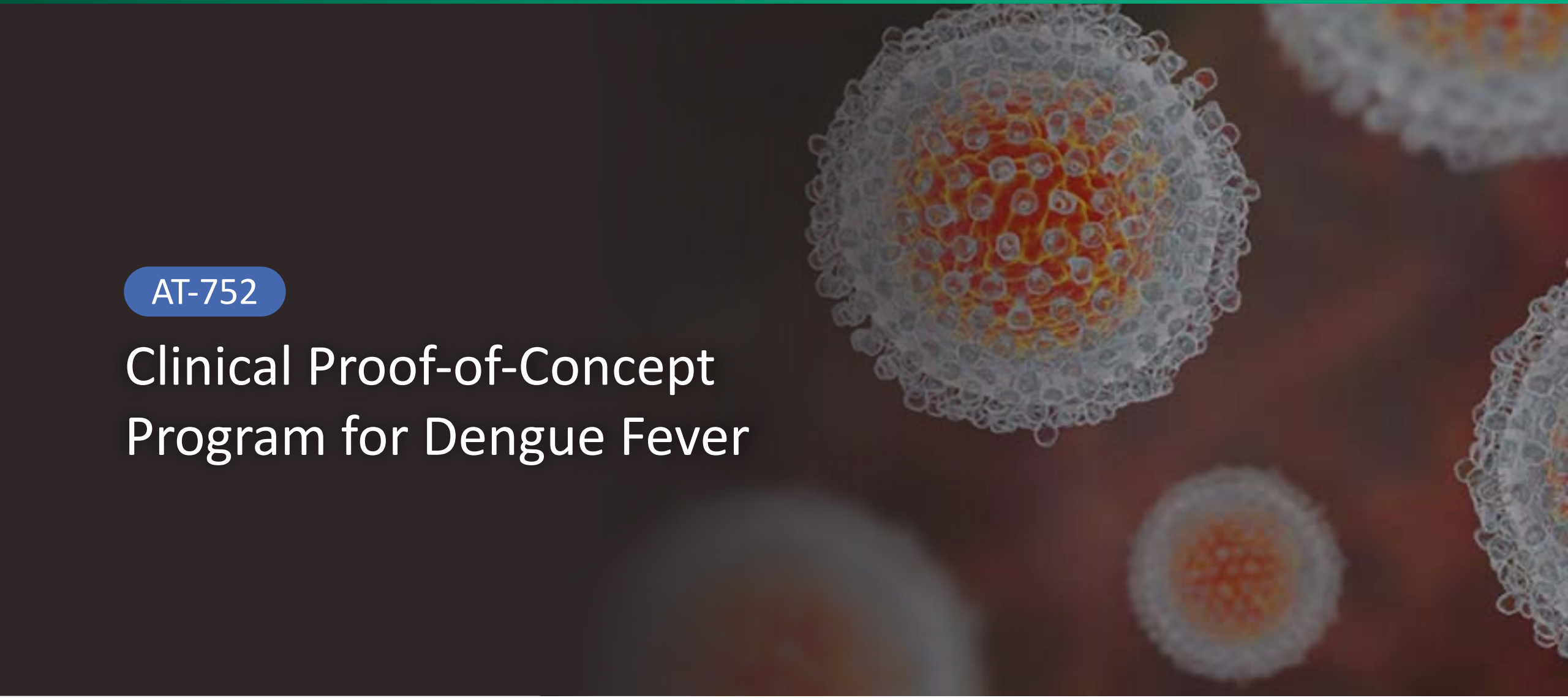
Status:

- Received authorization to proceed from EMA CHMP on Phase 3 outpatient protocol
  - Reviewing protocol at local country level
  - Ex-US clinical sites identified and local CTA's in process
- Initiation of US clinical sites expected after FDA clearance of Phase 3 outpatient protocol
- Patients could be rolled over to a LTFU study
- Global footprint

*Details to be finalized following consultation with regulatory authorities

AT-752

Clinical Proof-of-Concept Program for Dengue Fever



AT-752

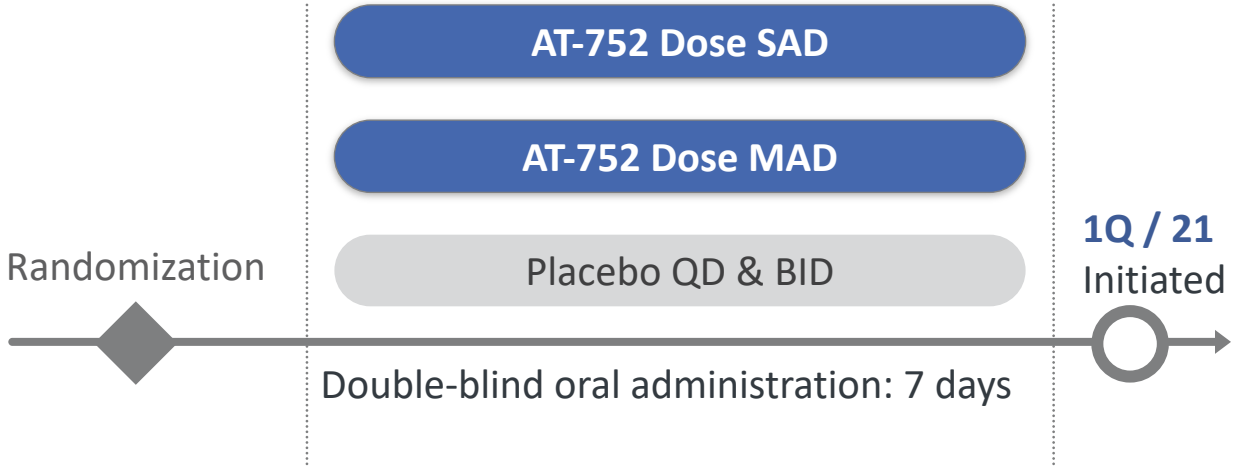
Phase 1a and Phase 1b Clinical Studies* for the Treatment of Dengue Fever

Inclusion Criteria: healthy volunteers, sequential dose-escalation

Country: Australia

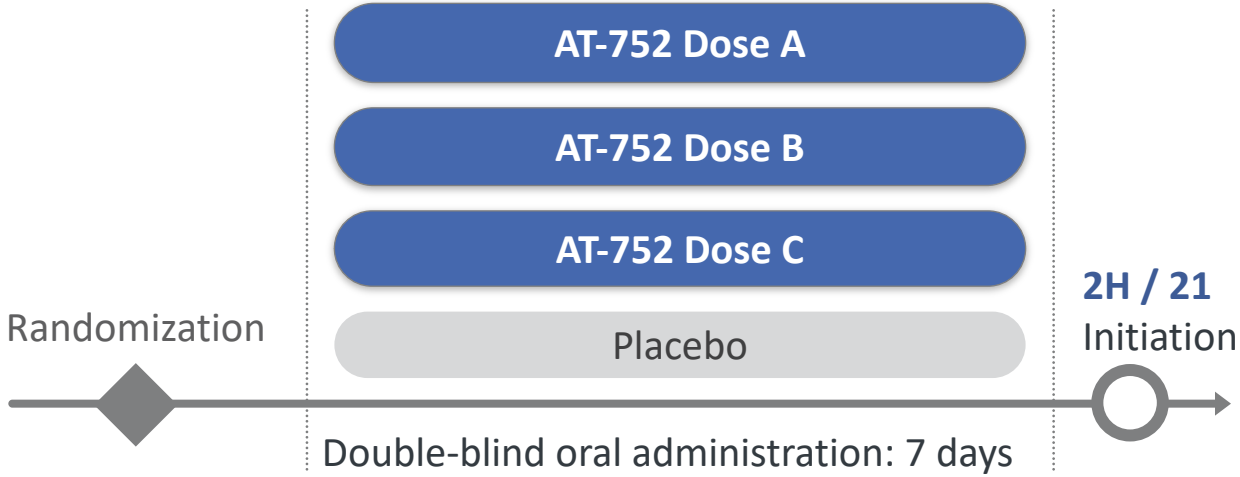
Objectives: Safety and PK (with embedded food effect)

- CTA filed December 2020
- Phase 1a study initiated March 2021
- Part I: Single ascending dose escalation
- Part 2: Multiple dose QD and BID for 7 days



Inclusion Criteria: adults with dengue infection
Location: dengue endemic regions/research institutions

Objectives:
Antiviral activity, viral kinetics, safety and PK



*Details to be finalized following consultation with regulatory authorities.

Financial Summary and Closing Remarks

Financial Update

Consolidated Statement of Operations
(in thousands, except share and per share data)

	Year Ended December 31,	
	2020	2019
Collaboration revenue	$ 48,633	$ —
Operating expenses:		
Research and development	38,023	10,170
General and administrative	21,640	4,438
Total operating expenses	59,663	14,608
Loss from operations	(11,030)	(14,608)
Interest income and other, net	83	574
Net and comprehensive loss	$ (10,947)	$ (14,034)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.51)	$ (1.39)
Weighted-average shares outstanding, basic and diluted	21,592,441	10,091,100

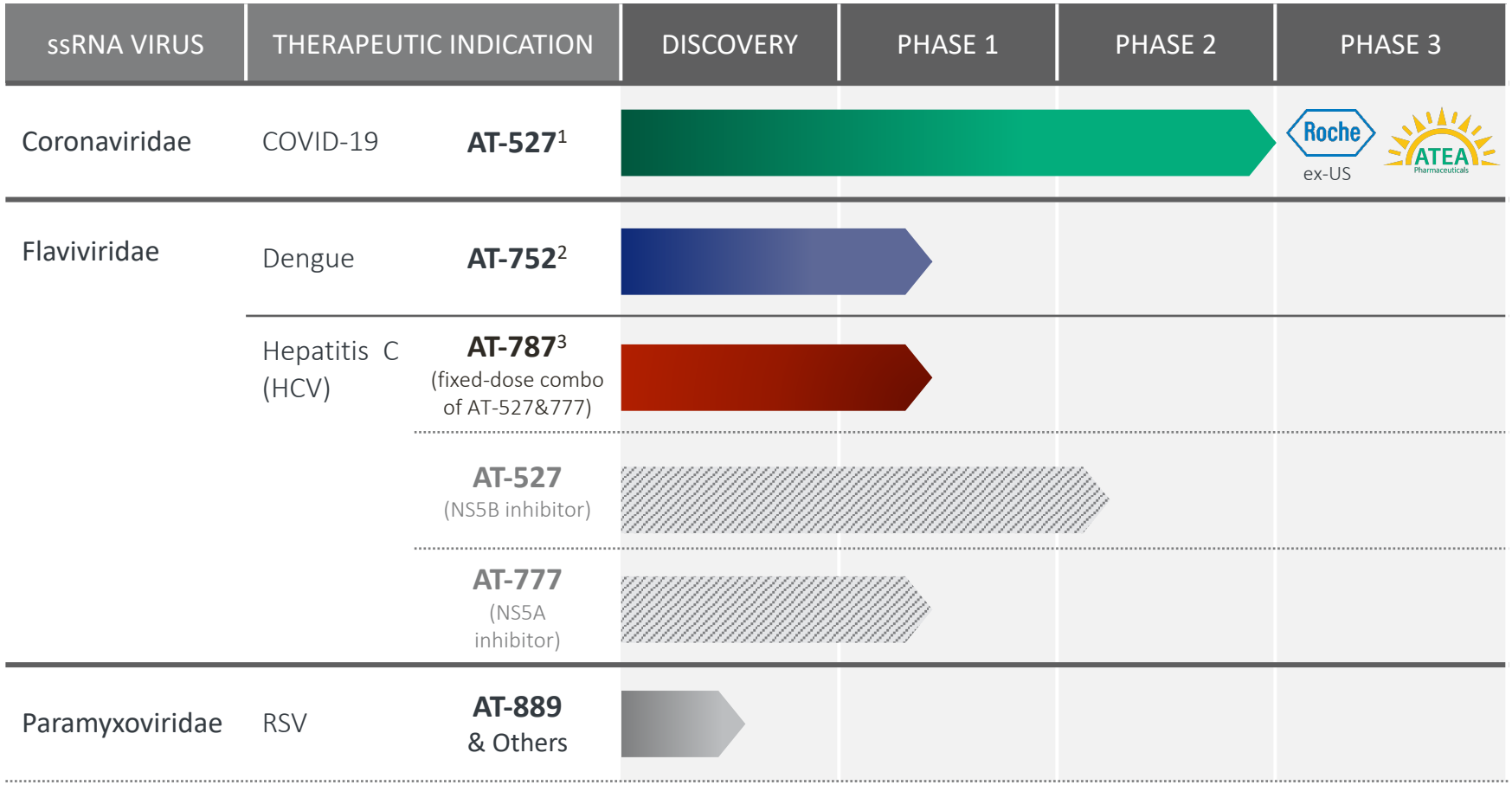
Financial Update

Selected Consolidated Balance Sheet Data
(in thousands)

	December 31, 2020	December 31, 2019
Cash and cash equivalents	$ 850,117	$ 21,661
Working capital[(1)]	$ 547,682	$ 19,475
Total assets	$ 863,632	$ 22,073
Deferred revenue	$ 301,367	-
Convertible preferred stock	-	$ 69,114
Total stockholders' equity (deficit)	$ 547,801	$ (49,571)

(1) The Company defines working capital as current assets less current liabilities. See the Company's consolidated financial statements in its Annual Report on Form 10K for the year ended December 31, 2020 for further detail regarding its current assets and current liabilities.

Atea's Platform Has Generated a Deep Antiviral Pipeline



HIGHLIGHTS

- AT-527 efficacy results 2021-2022
- Projected near-term launch of AT-527, an oral DAA for COVID-19
- Multiple value-driving milestones over the next 18-months in several therapeutic indications
- $850.1 million in cash and cash equivalents as of 12/31/20
- Cash runway through 2023

[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.

Q & A Session

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