First Quarter 2023 Financial and Business Update

May 8, 2023

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 including without limitation the future of the COVID-19 and HCV landscapes and related commercial market opportunities. All statements other than statements of historical facts contained in this presentation are forward-looking statements, including statements by Atea Pharmaceuticals, Inc. (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 any products that may be approved; research and development costs; current and prospective collaborations; 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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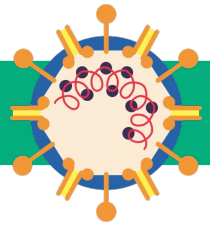
Industry Information

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.

Q1 2023 and Recent Highlights

COVID-19



Bemnifosbuvir for COVID-19

- Fast Track designation for COVID-19 granted by US FDA
- Execution on global SUNRISE-3 geographic footprint with regulatory approvals in >50% of targeted countries
- Multiple data presentations at CROI, ICAR and ECCMID detailing bemnifosbuvir's clinical efficacy and favorable safety and drug interaction profile
- Fully active against Omicron subvariants tested, including XBB
- Second-generation protease inhibitor advancing

Hepatitis C virus (HCV)

Bemnifosbuvir + Ruzasvir combination for HCV

- Phase 2 combination HCV trial
  - Ongoing regulatory submissions and approvals
  - On target for first patient dosed in Q2 2023
  - Initial results 4Q'23 from cohort of 60 patients
- Data presentation at ICAR supports combination profile
- New *in vitro* results of combination indicate highly compelling antiviral profile

Q1 2023 and Recent Presentations at Scientific Meetings

	Bemnifosbuvir for COVID-19 Data Presentations
CROI 2023	No Dose Adjustments for CYP3A4 Substrates When Co-Administered with Bemnifosbuvir
CROI 2023	Bemnifosbuvir Has Low Potential to Inhibit P-gp, BCRP, and OATP1B1 Mediated Transport
ICAR 2023	Low Risk of Drug-Drug Interactions (DDIs) for Bemnifosbuvir (BEM) Based Upon *In Vitro* Metabolism and Transporter Interaction Studies
ICAR 2023	Pharmacokinetics and Metabolism of [^{14}C]-Bemnifosbuvir in Healthy Male Participants
ICAR 2023	Bemnifosbuvir (BEM, AT-527) a Potent Inhibitor of SARS-CoV-2 Variants of Concern (VOC), and a Promising Oral Antiviral with a High Resistance Barrier for Treatment of COVID-19 and other Coronaviruses Infections
ICAR 2023	Five Cellular Enzymes in the Activation Pathway of Bemnifosbuvir, a Drug-Candidate Against SARS-CoV-2 Infections
ECCMID 2023	Bemnifosbuvir (AT-527) Treatment of Non-Hospitalized Individuals with Mild to Moderate COVID-19: Results from a Truncated Phase 3, Randomized, Double-Blind, Placebo-Controlled Trial (MORNINGSKY)

Bemnifosbuvir Data Highlights:

- No dose adjustments for CYP3A4 substrates when co-administered
- Low risk of drug-drug interactions with medicines commonly prescribed to HCV patients and patients at high risk for severe COVID-19
- High barrier to resistance to COVID variants due to MOA
- MORNINGSKY results showed 71% reduction in risk of hospitalizations with bemnifosbuvir vs placebo (secondary endpoint); in exploratory analysis 82% reduction in risk in patients >40 years old

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Q1 2023 and Recent Presentations at Scientific Meetings

	Bemnifosbuvir + Ruzasvir for HCV Data Presentations
ICAR 2023	The Combination of Bemnifosbuvir (BEM) and Ruzasvir (RZR), the HCV NS5B and NS5A Inhibitors, Demonstrates Potent *In Vitro* Synergistic Antiviral Activity and *In Vivo* Preclinical Safety Without Adverse Interactions

	AT-752 for Dengue Data Presentations
ICAR 2023 & *Antiviral Research* April 2023	AT-752 Targets Multiple Sites and Activities on the Dengue Virus Replication Enzyme NS5
ECCMID 2023	AT-752, A Novel Nucleotide Prodrug With Pan-Serotype Activity Against Dengue Virus, Does Not Affect Cardiac Repolarization: Results From a Robust QT/QTc Evaluation in Healthy Participants

Data Highlights Bemnifosbuvir+Ruzasvir for HCV AT-752 for Dengue*:

- Combination of bemnifosbuvir + ruzasvir for HCV demonstrated potent *in vitro* synergistic antiviral activity and *in vivo* preclinical safety without adverse interactions
- AT-752's mechanism inhibited the essential DENV NS5 enzyme
- AT-752 is well tolerated; no clinically relevant effects on cardiac repolarization, heart rate, PR or QRS intervals

* In February 2023, Atea made business decision to deprioritize further clinical development of AT-752 for dengue due to anticipated long clinical timelines and associated costs

In Vitro Bemnifosbuvir is Fully Active Against Omicron Subvariants, with Similar EC_{90} Target Concentrations

SARS-CoV-2 variant		AT-511* EC_{90}, µM (n)		Fold change (variant/USA-WA1)
Variant	**Lineage**	**Mean**	**SD**	
Original (USA-WA1/2020)	A	0.75 (n=2)	0.21	-
Alpha	B.1.1.7	2.15 (n=3)	0.22	2.9
Gamma	P.1	2.50 (n=3)	0.50	3.3
Epsilon	B.1.427	0.76 (n=2)	0.48	1.0
Original (USA-WA1/2020)	A	0.43 (n=2)	0.12	
Beta	B.1.351	0.80 (n=2)	0.23	1.9
Original (USA-WA1/2020)	A	1.20 (n=3)	0.37	-
Delta	B.1.617.2	1.36 (n=3)	0.34	1.1
Original (USA-WA1/2020)	A	0.58 (n=5)	0.26	-
Omicron (BA.1)	B.1.1.529	0.50 (n=3)	0.27	0.86
Original (USA-WA1/2020)	A	0.59 (n=2)	0.18	-
Omicron (BA.2)	B.1.1.529	0.54 (n=2)	0.08	0.92
Original (USA-WA1/2020)	A	0.88 (n=2)	0.15	-
Omicron (BA.4)	B.1.1.529	0.54 (n=2)	0.27	0.61
Omicron (BA.5)	B.1.1.529	0.81 (n=2)	0.20	0.92
Original (USA-WA1/2020)	**A**	**1.02 (n=1)**	-	**-**
Omicron (XBB)	**B.1.1.529+BA**	**1.11 (n=1)**	-	**1.09**

EC_{90} = effective concentrations inhibiting 90% of viral replication

Readout: VYR (virus yield assay); Cells: Normal human-derived tracheal/bronchial epithelial cells.*AT-511 is the free base of bemnifosbuvir

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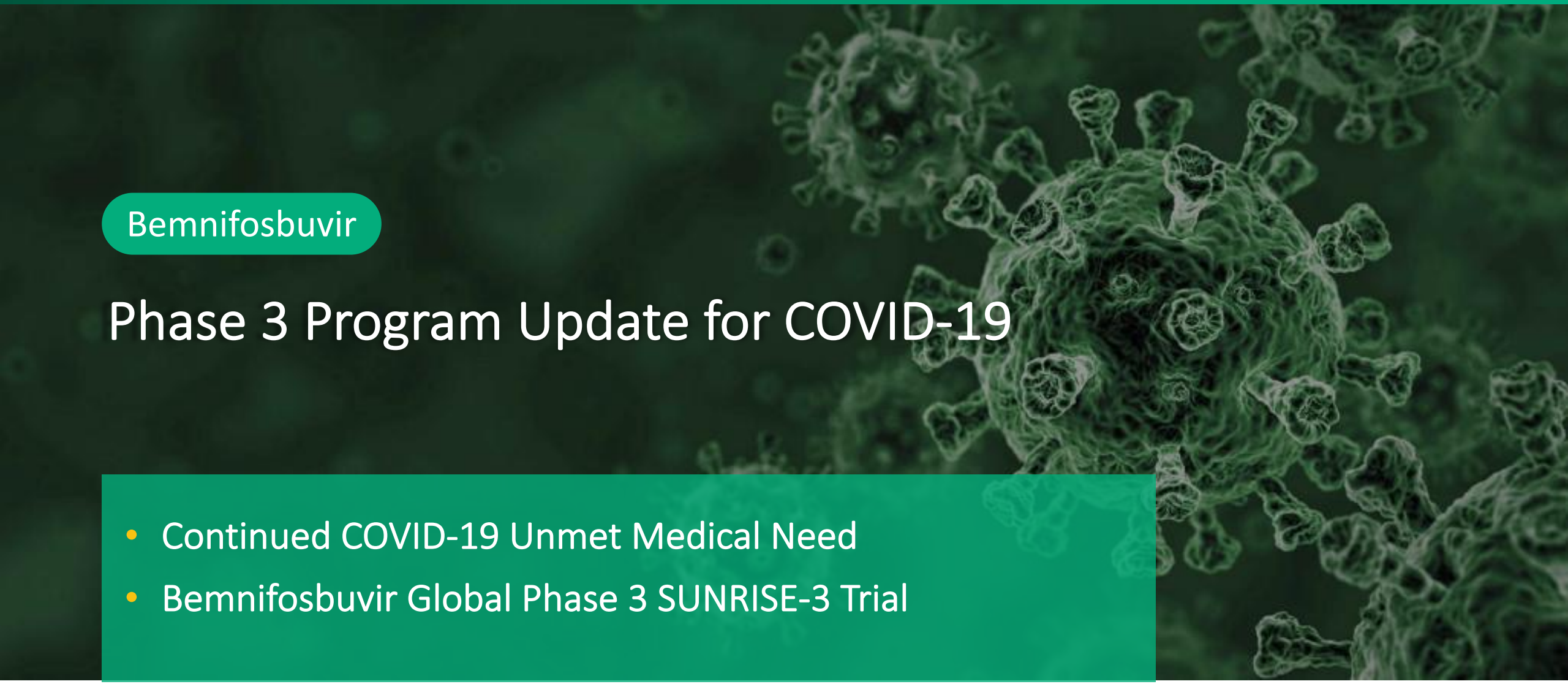

Bemnifosbuvir

Phase 3 Program Update for COVID-19

- Continued COVID-19 Unmet Medical Need
- Bemnifosbuvir Global Phase 3 SUNRISE-3 Trial

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Bemnifosbuvir – U.S. FDA Fast Track Designation for COVID-19

Public Health Emergency Ending May 11th, Market Shifting to Traditional Payor Market

COVID-19 UNMET MEDICAL NEED

EUAs are expected to continue if criteria are met

- **Waning immunity of vaccines / natural infection**
  - Low booster uptake, ~17% in US[1]
- **Failure to mount immune response to vaccines in some patients**
- **No effective monoclonal antibodies for outpatient use[2]**
- **Limitations with authorized oral antivirals**
  - Drug-drug interactions with commonly prescribed medications such as seizure medications, anti-psychotics, anti-coagulants, and more
  - Limits use in high risk, elderly and immunocompromised patients
  - Safety concerns

Data Presented at CROI, ICAR and ECCMID Support Bemnifosbuvir Profile

- ✓ Nucleotide, oral direct-acting antiviral
- ✓ Targets viral RNA polymerase, highly conserved enzyme critical to viral replication & transcription
- ✓ Favorable safety and tolerability profile

  No mutagenicity or embryo-fetal toxicity (preclinical)
- ✓ Due to low risk for drug-drug interaction, bemnifosbuvir may be co-administered with commonly prescribed drugs for high risk COVID-19 patients including:

  Anticoagulants, statins and other cardiovascular medications, certain diabetes medications, immunosuppressants, and chemotherapy

1. https://covid.cdc.gov/covid-data-tracker/#datatracker-home
2. https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-limits-use-certain-monoclonal-antibodies-treat-covid-19-due-omicron

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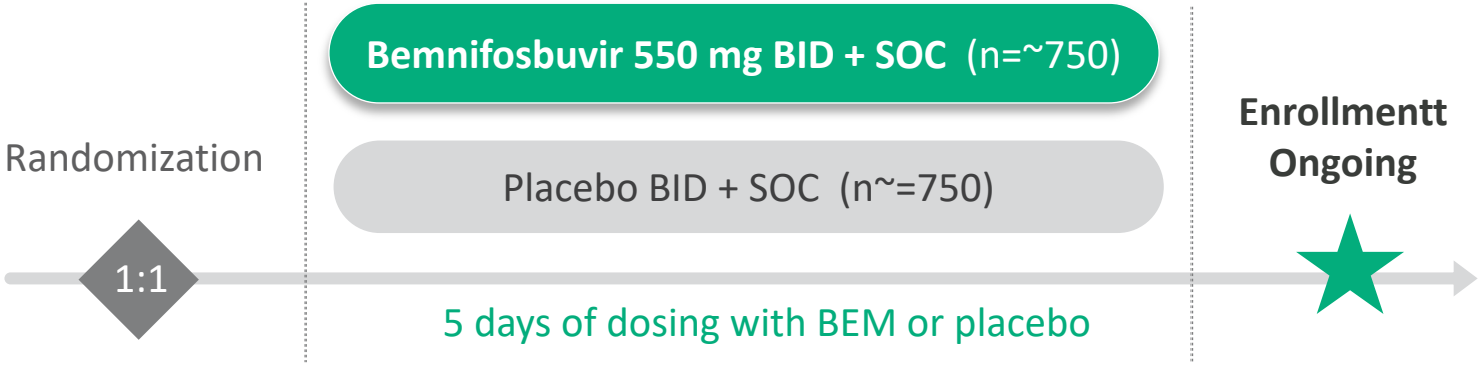
SUNRISE-3: Global Phase 3 Trial in High-Risk COVID-19 Outpatients

Innovative Phase 3 Trial Design with Global Footprint ~300 Clinical Sites

Inclusion Criteria: High-risk outpatients with mild or moderate COVID-19, regardless of vaccination status; symptom onset ≤ 5 days before randomization

Geography: US, Europe, Japan and ROW



Phase 3 Study Design:

- Randomized, double-blind, placebo-controlled
- Study drug (bemnifosbuvir or placebo) to be initiated at the same time as locally available standard of care (SOC)
- Two study populations derived from the type of SOC received:
  - "Supportive care population" – *monotherapy* (primary analysis)
  - "Combination antiviral population" – *combination therapy* (secondary analysis, local SOC includes treatment with other compatible antiviral drugs against COVID-19)
- Interim analysis to be conducted

Primary Endpoint:

- **All-cause hospitalization or death through Day 29 in supportive care population (n: ≥1,300 patients)**

Secondary Endpoints (assessed in each population):

- COVID-19 related hospitalizations and deaths
- Medically attended visits
- Symptom rebound / relapse
- Viral load rebound

HEPATITIS C

Program Update: Potential Best-in-Class Pan-Genotypic Regimen

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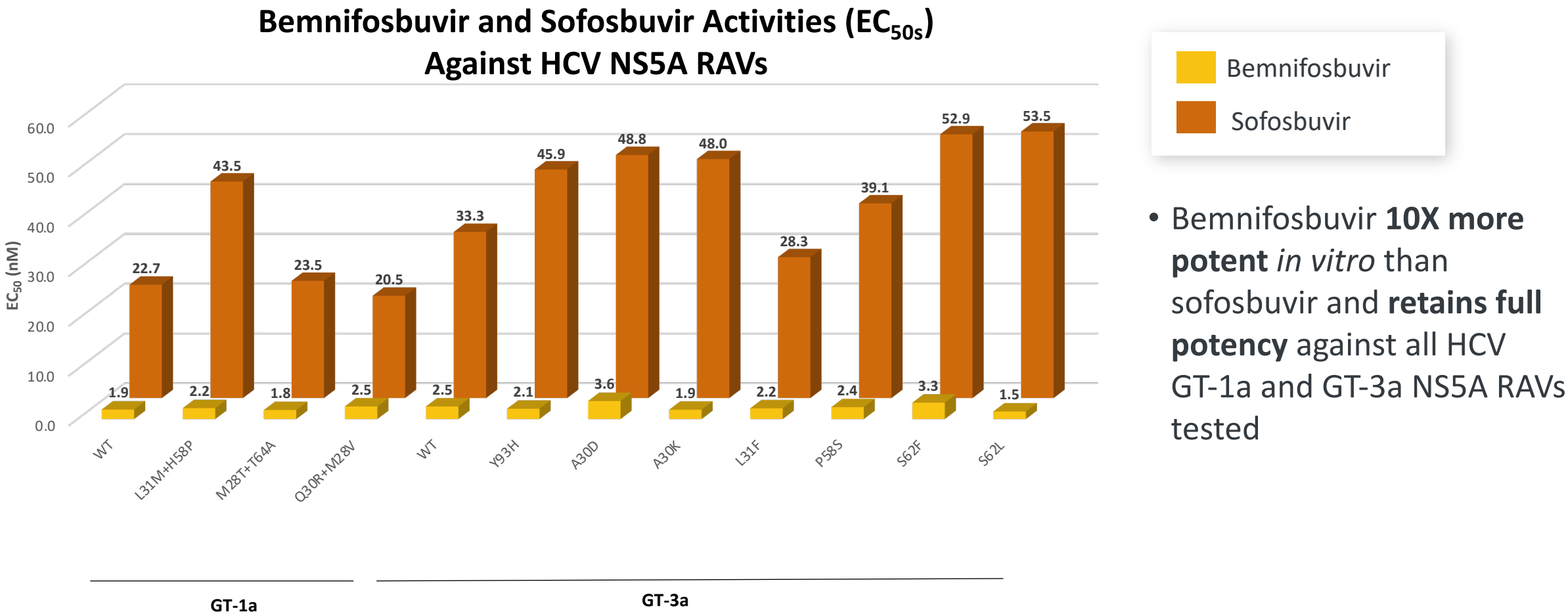
Bemnifosbuvir Retains High Potency *In Vitro* Against HCV-GT-1a and GT-3a NS5A Resistance Associated Variants (RAVs)



- Bemnifosbuvir **10X more potent** *in vitro* than sofosbuvir and **retains full potency** against all HCV GT-1a and GT-3a NS5A RAVs tested

In Vitro Potency of HCV NS5A Inhibitors

Ruzasvir has **a more favorable** *in vitro* potency profile as compared to velpatasvir (GILD) and **similar** *in vitro* potency to pibrentasvir (ABBV)

	HCV Replicon EC_{50} (pM)							
Inhibitor	**GT1a**	**GT1b**	**GT2a**	**GT2b**	**GT3a**	**GT4a**	**GT5a**	**GT6a**
ruzasvir – Atea[a] (MRK)	1	2	1	4	2	2	1	4
velpatasvir – GILD[b]	12	15	9	8	12	9	75	6
daclatasvir – BMS[c]	50	9	71		146	12	33	
pibrentasvir – ABBV[d]	2	4	2	2	2	2	1	3
ravidasvir - Presidio[e]	~110	~20	~120		~1100	~50	~40	~400

[a]Asante-Appiah et al. AASLD, 2014
[b]Cheng et al. EASL, 2013
[c]Gao et al. Nature, 2010
[d]Ng et al. CROI, 2014
[e]Colonno et al. EASL, 2011

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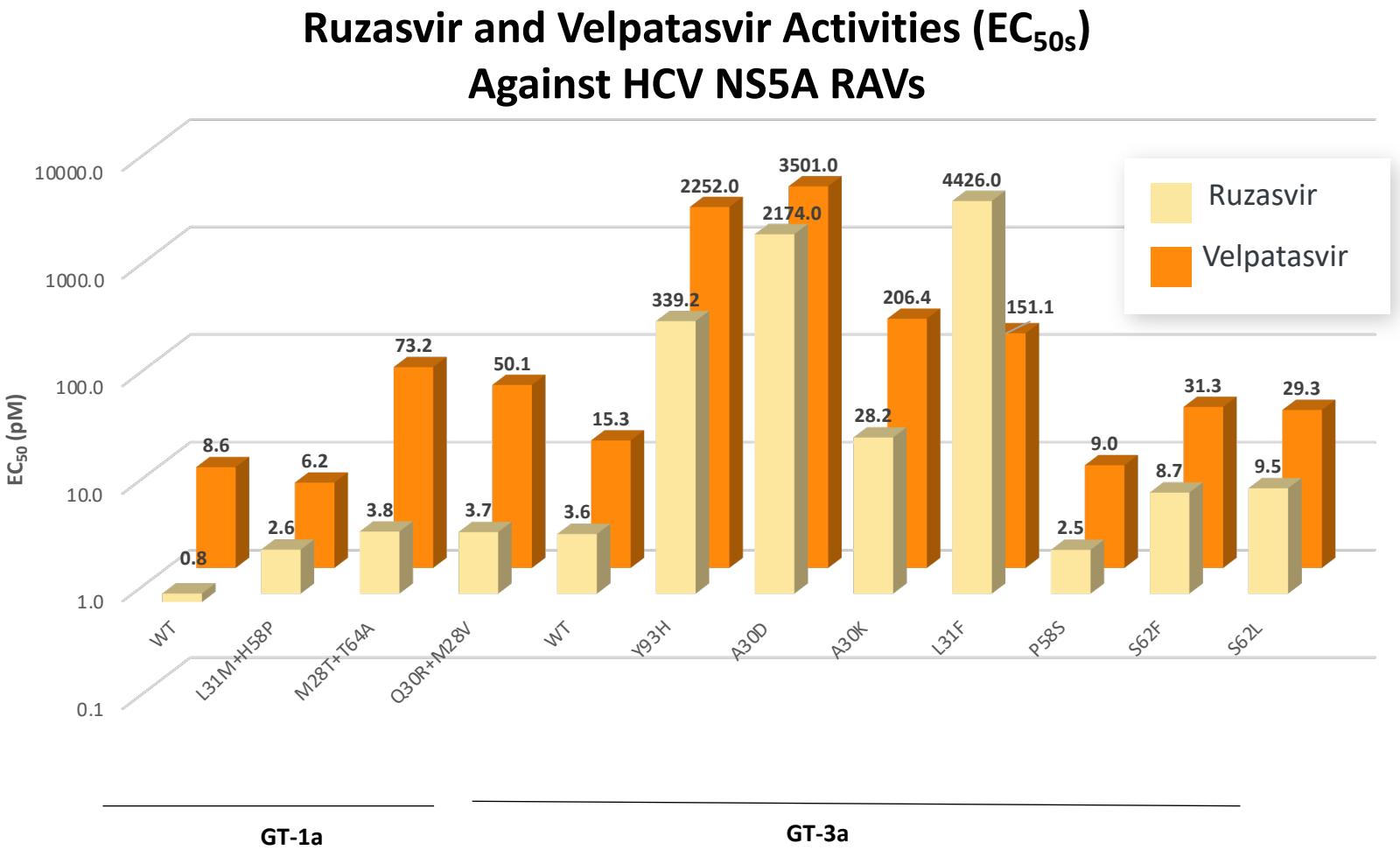
Ruzasvir Retains *In Vitro* High Potency Against HCV GT1a and 3a Resistance Associated Variants (RAVs)



- Ruzasvir **5-10-fold more potent** *in vitro* than velpatasvir in HCV GT-1a and GT-3a, one of the most difficult to treat genotypes
- Ruzasvir, in general, **maintains a better potency profile** than velpatasvir in most NS5A clinically relevant RAVs

Summary: Bemnifosbuvir + Ruzasvir Combination for HCV Treatment

- **Bemnifosbuvir is at least 10X more potent than sofosbuvir**; retains full potency against all HCV GT-1a and GT-3a NS5A resistance associated variants (RAVs) tested
- **Ruzasvir has a more favorable *in vitro* potency** profile against most HCV GT-1a and GT-3a RAVs as compared to velpatasvir
- **Combination of bemnifosbuvir + ruzasvir expected to have highly compelling profile:**
  - Targeting 8 weeks' therapy with the potential for a shorter duration
  - Pan-genotypic antiviral potency
  - Protease-inhibitor free
  - No food effect
  - Clinical safety and efficacy of each agent previously demonstrated
  - Low potential for drug-drug interaction of combination with commonly prescribed drugs, including concomitant medications typically used in medication-assisted treatment for opioid use disorders

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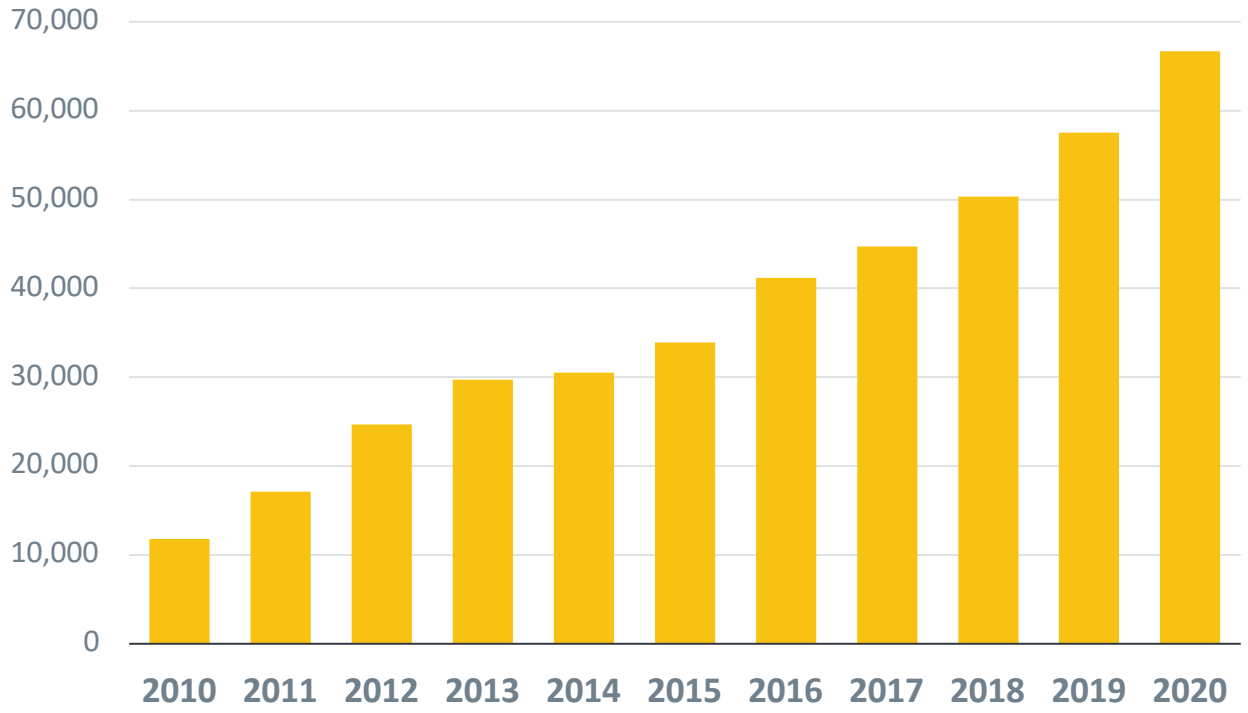
Resurgence of HCV Infections in the US

Newly Diagnosed HCV cases in the US increased 400% between 2010-2020

Estimated Cases of Newly Diagnosed Hepatitis C Infections in US



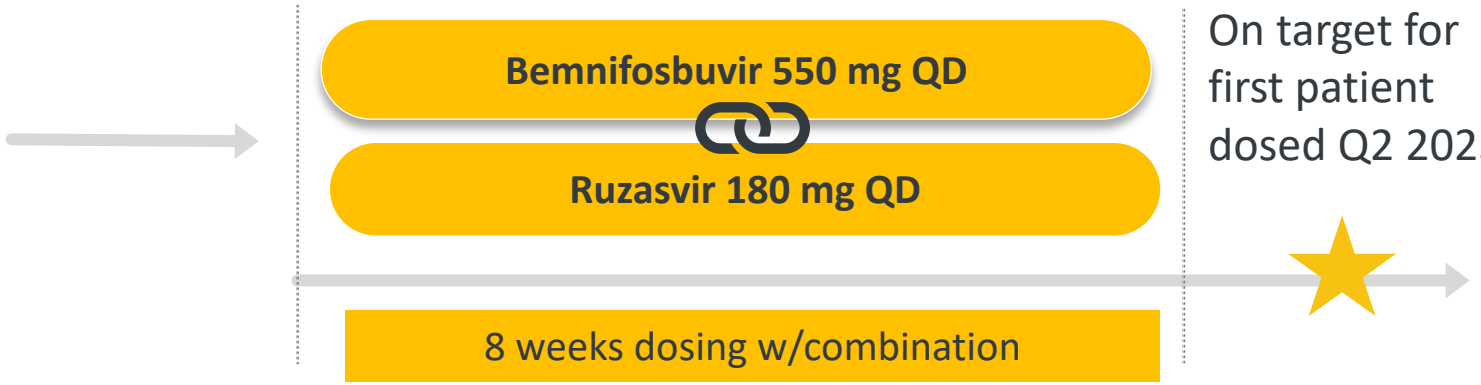
- US Government proposed HCV program goal is to eliminate HCV
  - Recognizes resurgence
  - Expected to spur growth in direct acting antiviral uptake and revenues
- According to the WHO, 58M people globally have chronic HCV infection, about 1.5M new infections occur per year and nearly 300K people die every year from HCV-related liver diseases

Source: CDC, National Notifiable Diseases Surveillance System.
Reference: Klevens RM, Liu, S, Roberts H, et al. Estimating acute viral hepatitis infections from nationally reported cases. Am J Public Health 2014; 104:482. PMC3953761.
Centers for Disease Control and Prevention. Viral Hepatitis Surveillance Report – United States, 2020. https://www.cdc.gov/hepatitis/statistics/2020surveillance/index.htm. Published September 2022.

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir in HCV Patients

Study Design: Open label combination

N=280: including a lead-in cohort of n=~60



Patient Population

- HCV-infected patients, including compensated cirrhosis
- Direct-acting antiviral naïve
- All genotypes

Primary Endpoints

- Sustained virologic response (SVR) at Week 12 post-treatment (SVR12)
- Safety

Other Endpoints

- Virologic failure
- SVR24
- Resistance

Financial Summary

Financial Update First Quarter 2023

Condensed Consolidated Statement of Operations and Comprehensive Loss
(in thousands, except share and per share amounts)
(unaudited)

	Three Months Ended March 31,	
	2023	**2022**
Operating expenses:		
Research and development	$ 28,954	$ 29,633
General and administrative	12,615	12,542
Total operating expenses	41,569	42,175
Loss from operations	(41,569)	(42,175)
Interest income and other, net	6,299	98
Loss before income taxes	(35,270)	(42,077)
Income tax expense	(197)	—
Net loss	$ (35,467)	$ (42,077)
Other comprehensive income:		
Unrealized gains on available-for-sale	377	—
Comprehensive loss	$ (35,090)	$ (42,077)
Net loss per share – basic and diluted	$ (0.43)	$ (0.51)
Weighted-average common shares used in computing net loss per share – basic and diluted	83,332,397	83,176,408

Financial Update First Quarter 2023

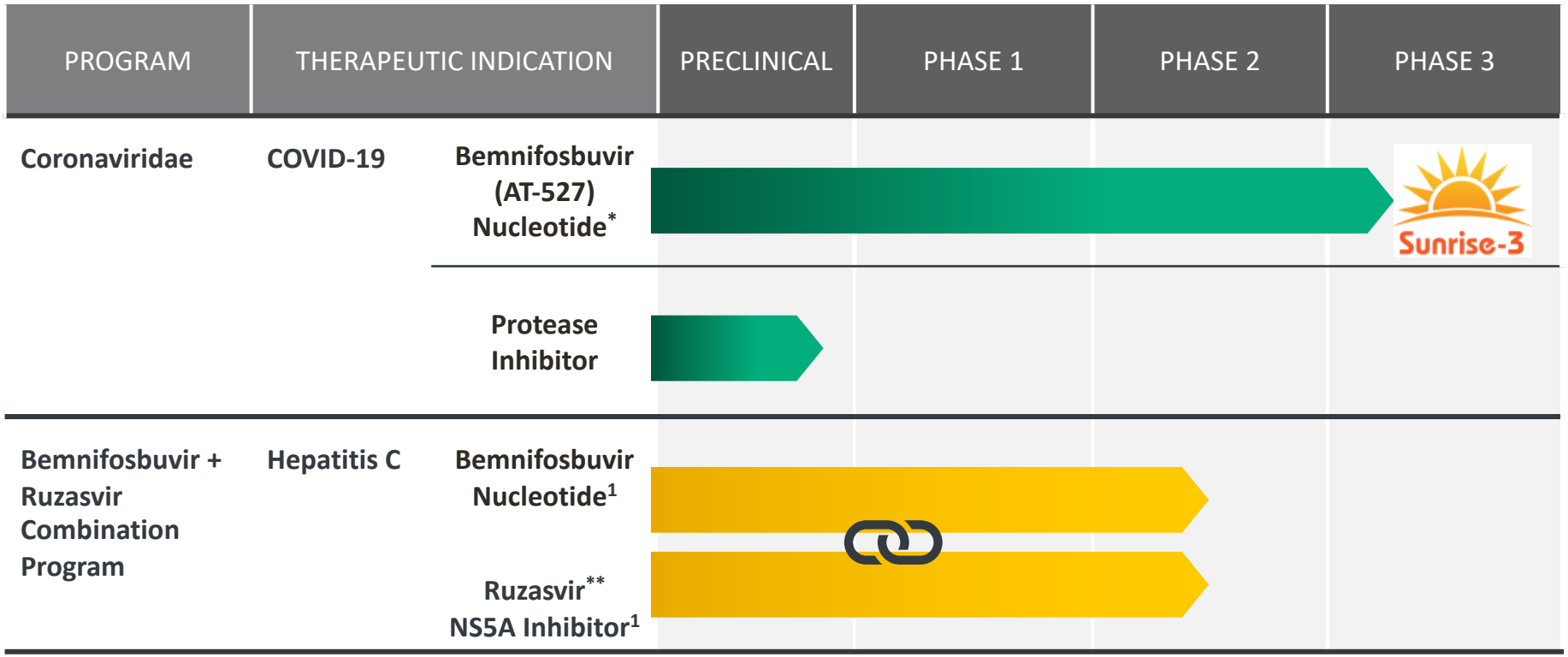
Selected Condensed Consolidated Balance Sheet Data
(in thousands)

	March 31, 2023	December 31, 2022
	(unaudited)	
Cash, cash equivalents, and marketable securities	$ 620,488	$ 646,709
Working capital[(1)]	620,029	642,444
Total assets	638,131	666,708
Total liabilities	19,949	26,136
Total stockholders' equity	618,182	640,572

(1) The Company defines working capital as current assets less current liabilities. See the Company's condensed consolidated financial statements in its Quarterly Report on Form 10-Q for the three months ended March 31, 2023 for further detail regarding its current assets and liabilities.

Closing Remarks

Focused Antiviral Pipeline, Fully Funded Through Key Inflection Points



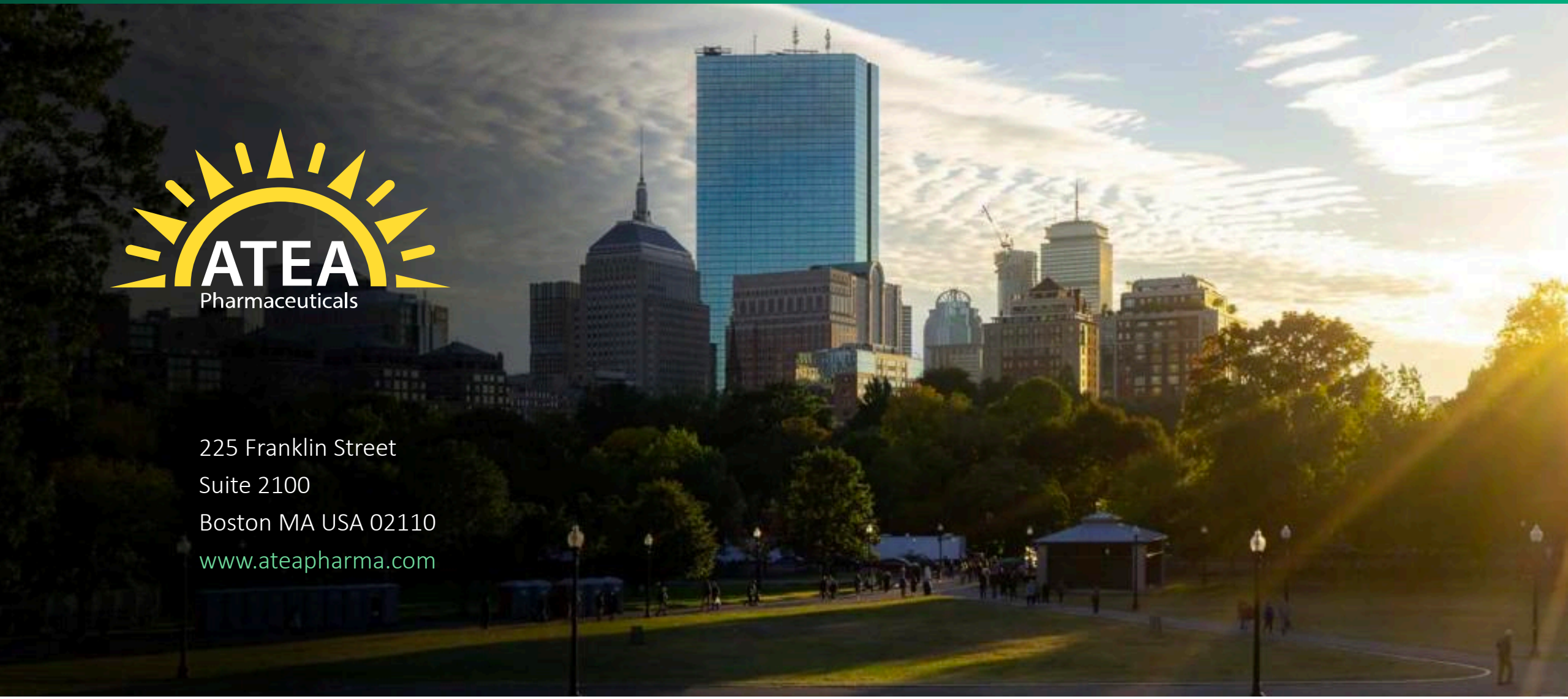
Well Capitalized

$620.5 million in cash, cash equivalents and marketable securities as of 3/31/23

Cash runway into 2026

*Bemnifosbuvir (generic name for AT-527) is a double prodrug nucleotide analog. ** Worldwide exclusive license for all uses from Merck.

1. Bemnifosbuvir and ruzasvir have each separately generated clinical results and will be developed as a combination for HCV.



225 Franklin Street
Suite 2100
Boston MA USA 02110
www.ateapharma.com