

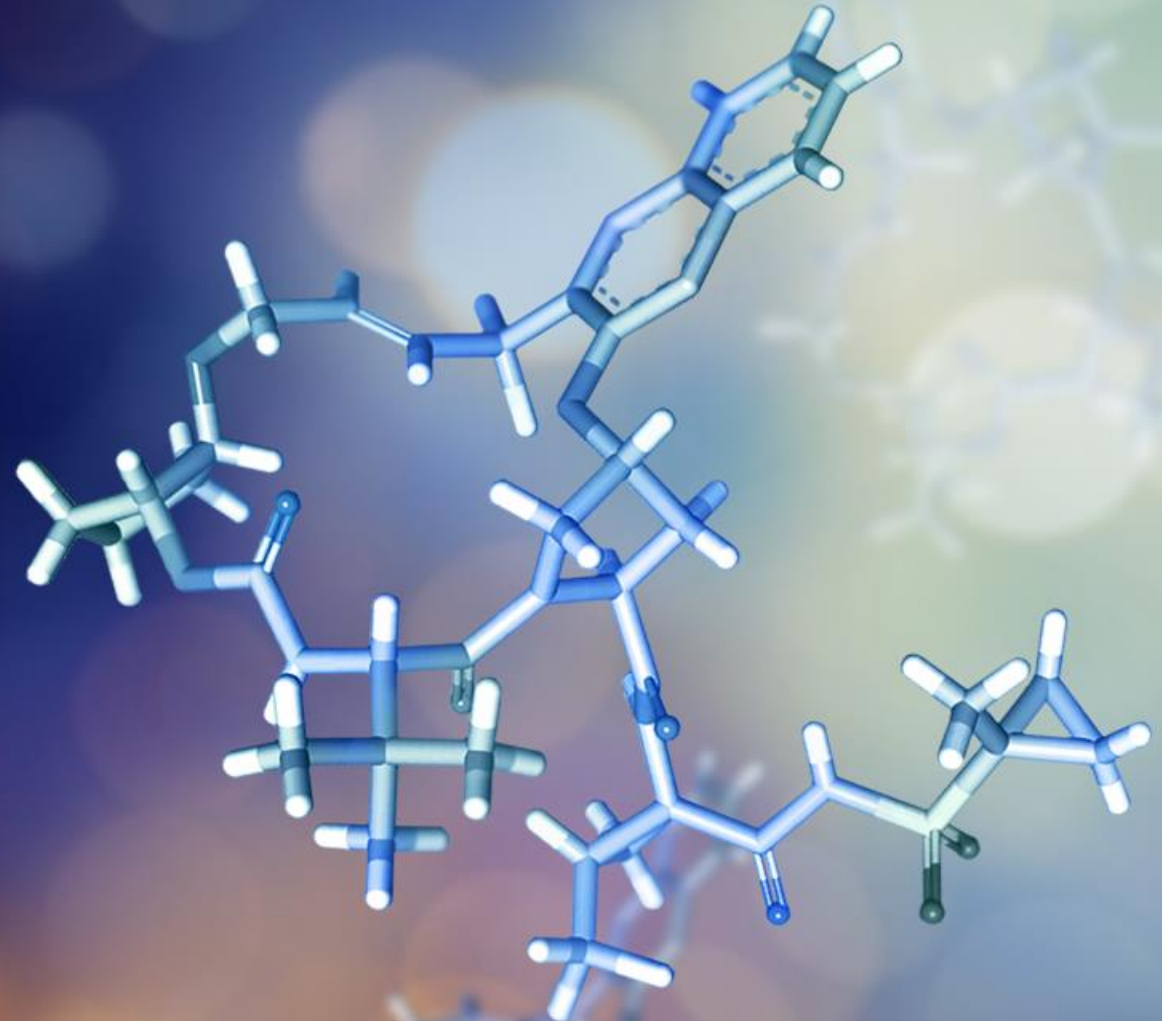
ENANTA

Pharmaceuticals

CREATING SMALL MOLECULE DRUGS
FOR VIRAL INFECTIONS AND LIVER DISEASES

Corporate Presentation

October 19, 2021

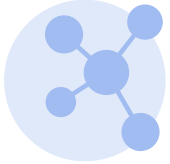


Forward Looking Statements Disclaimer

This presentation contains forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our research and development programs, our business and the industry in which we operate. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “potential,” “positioned,” “seek,” “should,” “target,” “will,” “would,” and other similar expressions that are predictions of or indicate future events and future trends, as well as other comparable terminology. These forward-looking statements include, but are not limited to, statements about overall trends, royalty revenue trends, research and clinical development plans and prospects, liquidity and capital needs and other statements of expectations, beliefs, future plans and strategies, anticipated events or trends, and similar expressions. These forward-looking statements are based on our management’s current expectations, estimates, forecasts and projections about our business and the industry in which we operate and our management’s beliefs and assumptions. These forward-looking statements are not guarantees of future performance or results and involve known and unknown risks, uncertainties and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this presentation may turn out to be inaccurate.

Please refer to the risk factors described or referred to in “Risk Factors” in Enanta’s most recent Quarterly Report on Form 10-Q, and other periodic reports filed with the Securities and Exchange Commission. Enanta cautions investors not to place undue reliance on the forward-looking statements contained in this presentation. These statements speak only as of the date of this presentation, and Enanta undertakes no obligation to update or revise these statements, except as may be required by law.

A Proven Approach to Drug Discovery



Using a proven, chemistry-driven approach to develop best-in-class small molecule drugs for virology and liver disease

Robust Clinical Stage Pipeline

- RSV:** Phase 2b in adult patients (RSVP)
Phase 2b in adult stem cell transplant patients (RSVPTx)
Phase 2 in pediatric patients (RSVPEDs)
- HBV:** Two Phase 1b studies (core inhibitor)
Phase 1 (RNA destabilizer)
- COVID-19:** Phase 1 (protease inhibitor) to initiate in early 2022

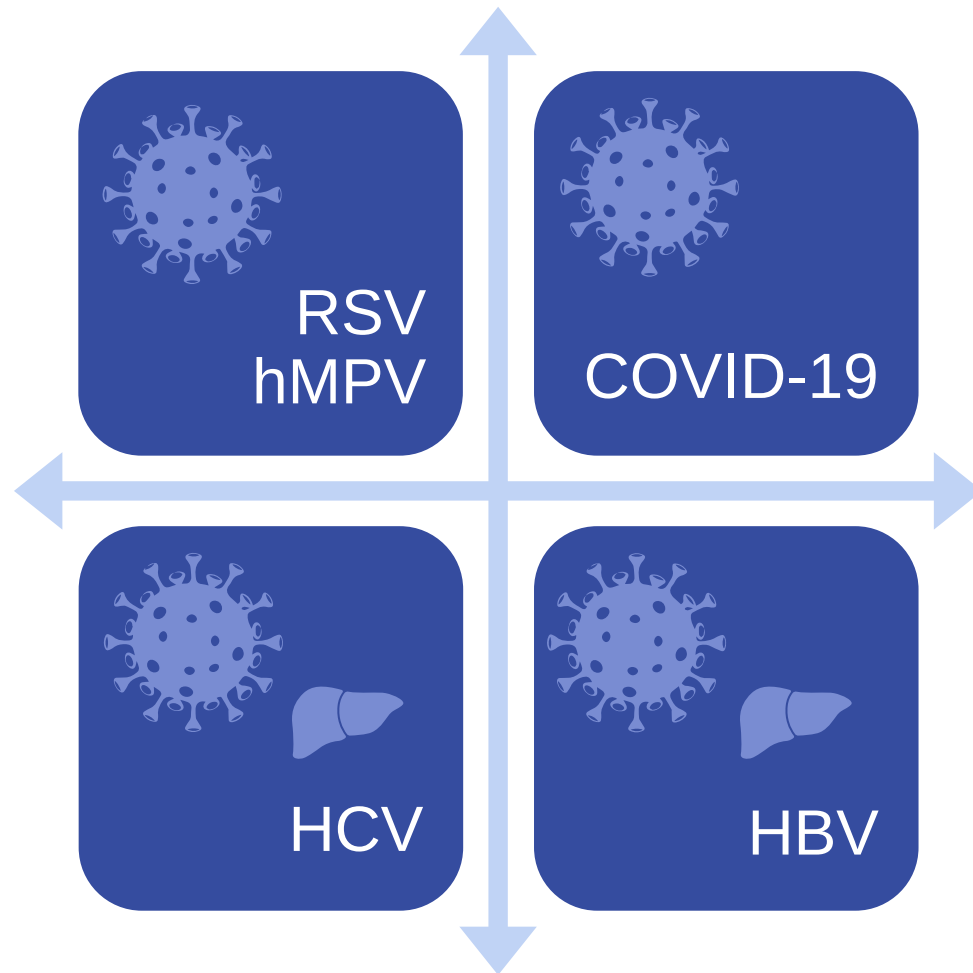
Proven Track Record of Success

Glecaprevir – HCV protease inhibitor in MAVYRET®/MAVIRET®
\$122M in fiscal 2020 royalties on HCV regimens

Strong Balance Sheet

Strong balance sheet and royalties to fund robust pipeline
\$373M in cash at 6/30/21

Our Therapeutic Focus



Leveraging our core strength in Hepatitis C to become a leader in oral treatments for **viral** infections and **liver** diseases

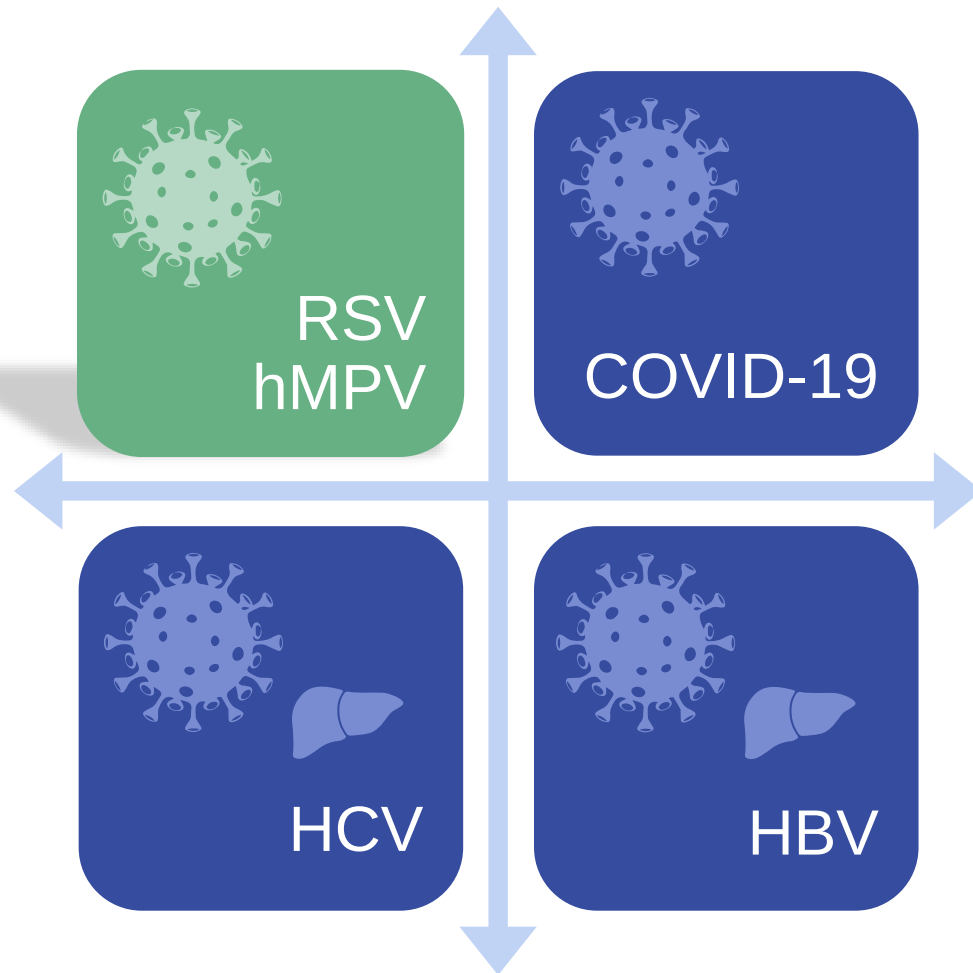
Several new therapeutic areas with goal of building multiple approaches in each

Enanta Pipeline

PRODUCT CANDIDATE			DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	MARKET			
Virology: Liver	HCV	Protease Inhibitor	Glecaprevir-containing pangenotypic 2-DAA combo								
	HBV	Core Inhibitor	EDP-514			Viremic HBV patients					
			EDP-514			NUC-suppressed HBV patients					
		RNA Destabilizer	EDP-721								
Virology: Respiratory	RSV	N-Protein Inhibitor	EDP-938					RSVP			
			EDP-938					RSVPEDs			
			EDP-938					RSVTx			
		L-Protein Inhibitor									
	hMPV	Non-Fusion Inhibitor									
	COVID-19	SARS-CoV-2 Inhibitor	EDP-235								
Discovery or Preclinical	RSV, HBV, other										
Out-license	NASH	FXR Agonists	EDP-305 (Phase 2), EDP-297 (Phase 1)								

*Fixed-dose combination contains glecaprevir and AbbVie's NS5A inhibitor, pibrentasvir. Marketed by AbbVie as MAVYRET® (U.S.) and MAVIRET® (ex-U.S.).

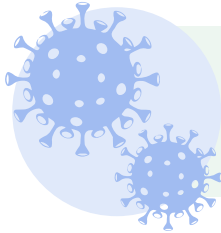
Our Therapeutic Focus



Leveraging our core strength in Hepatitis C to become a leader in oral treatments for **viral** infections and **liver** diseases

Several new therapeutic areas with goal of building multiple approaches in each

Respiratory Syncytial Virus (RSV)



Causes severe lung infections, including bronchiolitis (infection of small airways in the lungs) and pneumonia (an infection of the lungs). No safe and effective treatments.

Higher risk populations for severe illness include:

- Premature babies
- Older adults, especially those 65 years and older
- People with chronic lung disease or certain heart problems
- People with weakened immune systems (e.g. HIV, organ transplant, chemotherapy)

RSV at a Glance

Children < 5 years^{1,2}

Adults > 65 years³

33M global cases

3M global hospitalizations

120K global deaths

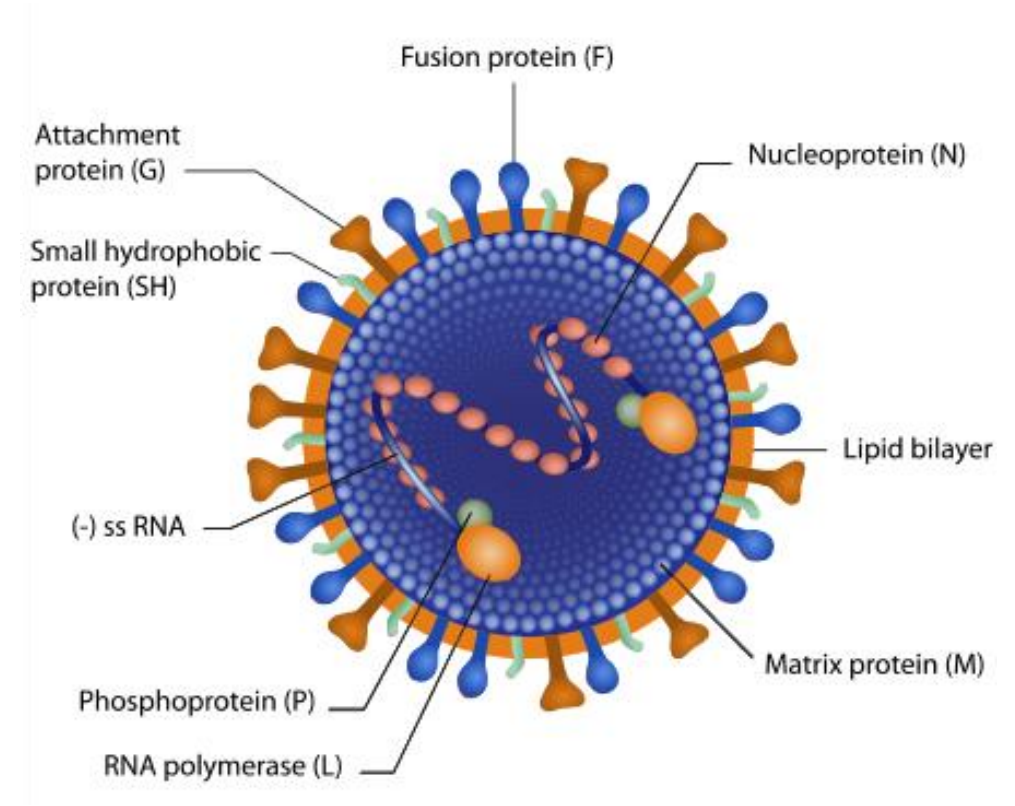
2.1M US outpatient visits

177K US hospitalizations

14K US deaths

EDP-938: N-Protein Inhibitor for RSV

- EDP-938 is the only N-inhibitor under clinical evaluation
 - Non-fusion approach directly targets viral replication vs. entry
 - Granted Fast Track Designation by FDA
- Strong preclinical virologic profile:
 - Nanomolar inhibitor of both RSV-A and RSV-B activity
 - Maintained antiviral potency across all clinical isolates tested
 - Demonstrated high-barrier to resistance *in vitro*
 - Synergy with other drug mechanisms (e.g. fusion and L-inhibitors)
 - Active against virus variants resistant to other mechanisms
 - Robust *in vivo* efficacy data



EDP-938 Development Program

Phase 1 Results

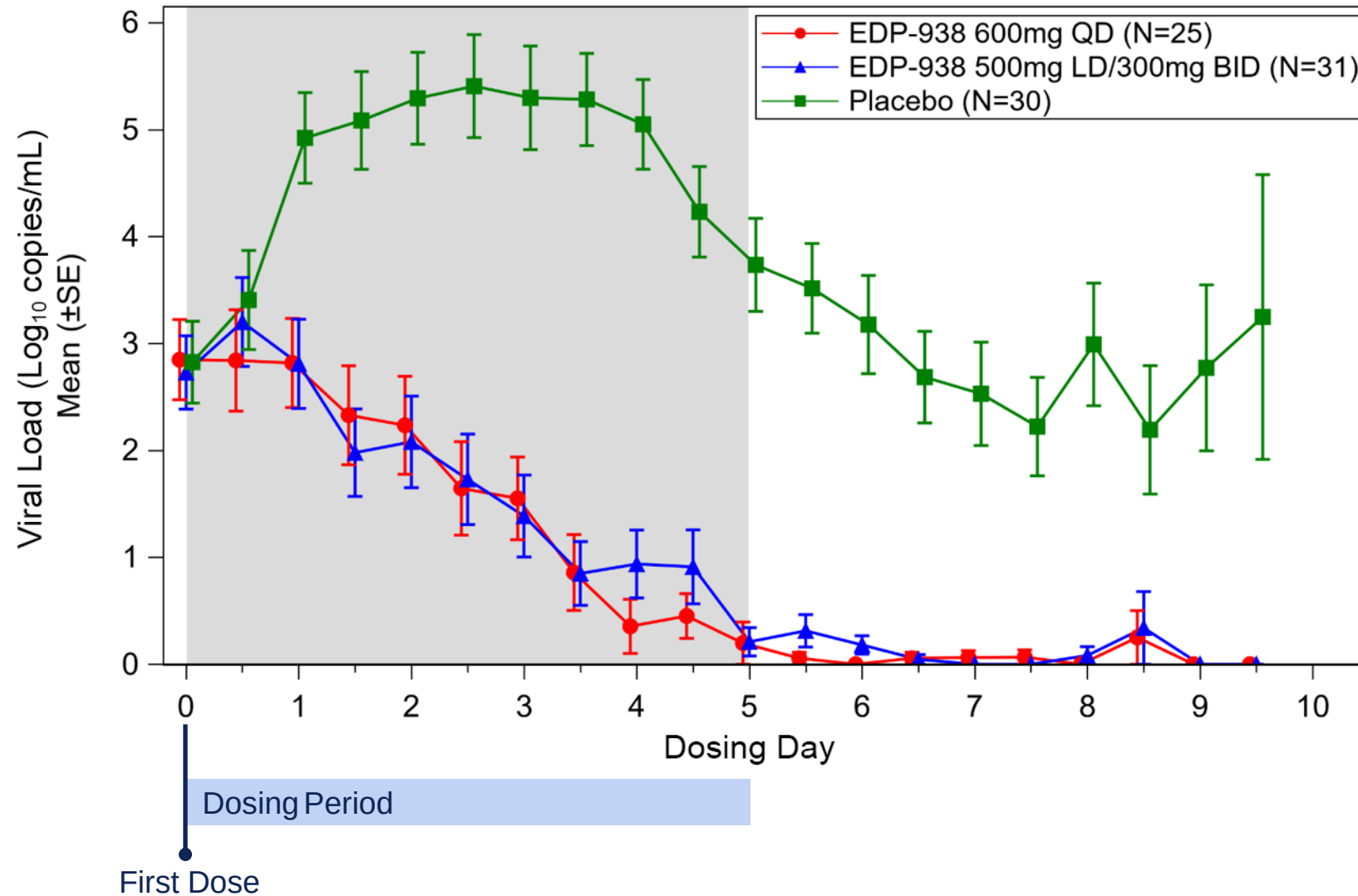
- Safe and well tolerated, no SAEs, AEs were mild
- At Phase 2 doses, mean trough levels 30x higher than EC90 of EDP-938 against RSV-infected human cells

Phase 2a Challenge Study Results

- Primary and key secondary efficacy endpoints were achieved ($p < 0.001$) at both dose levels after 5 days of dosing
 - Primary endpoint: Reduction in area under the curve (AUC) viral load in the intent-to-treat-infected population (ITT-I)
 - Secondary endpoint: Reduction in Total Symptom Score (TSS)
- Mean C_{trough} concentrations were approximately >20-40x higher than EC_{90}
- Well tolerated with safety profiles similar to placebo
- Consistent profile observed in >250 subjects exposed to EDP-938 for up to 7 days in Phase 1 and Phase 2a

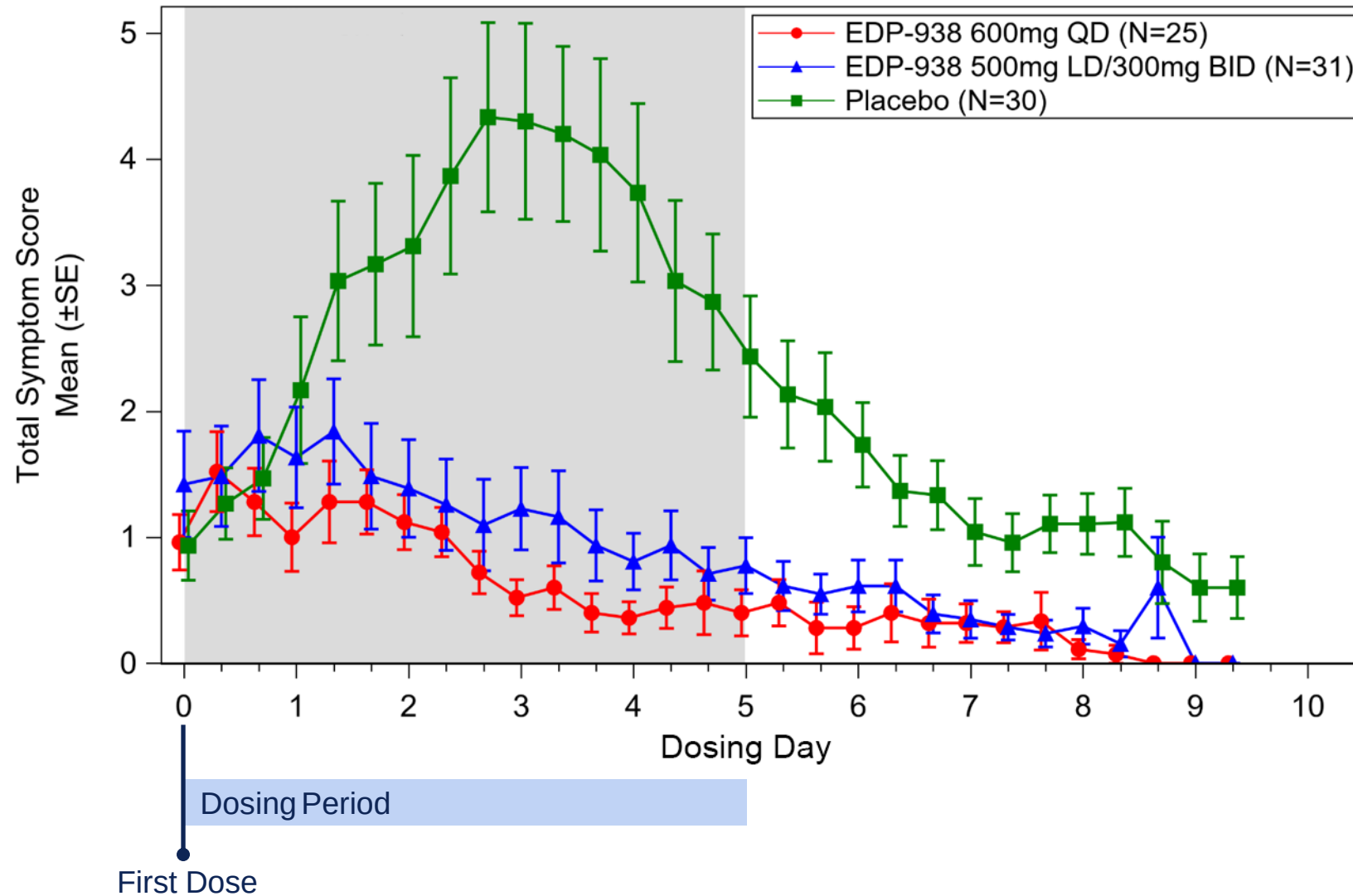
EDP-938 Robust Antiviral Effect

Rapid and Sustained Reduction in Viral Load in Both Active Arms Compared to Placebo (71%, 74% ↓ AUC; $P < 0.001$)

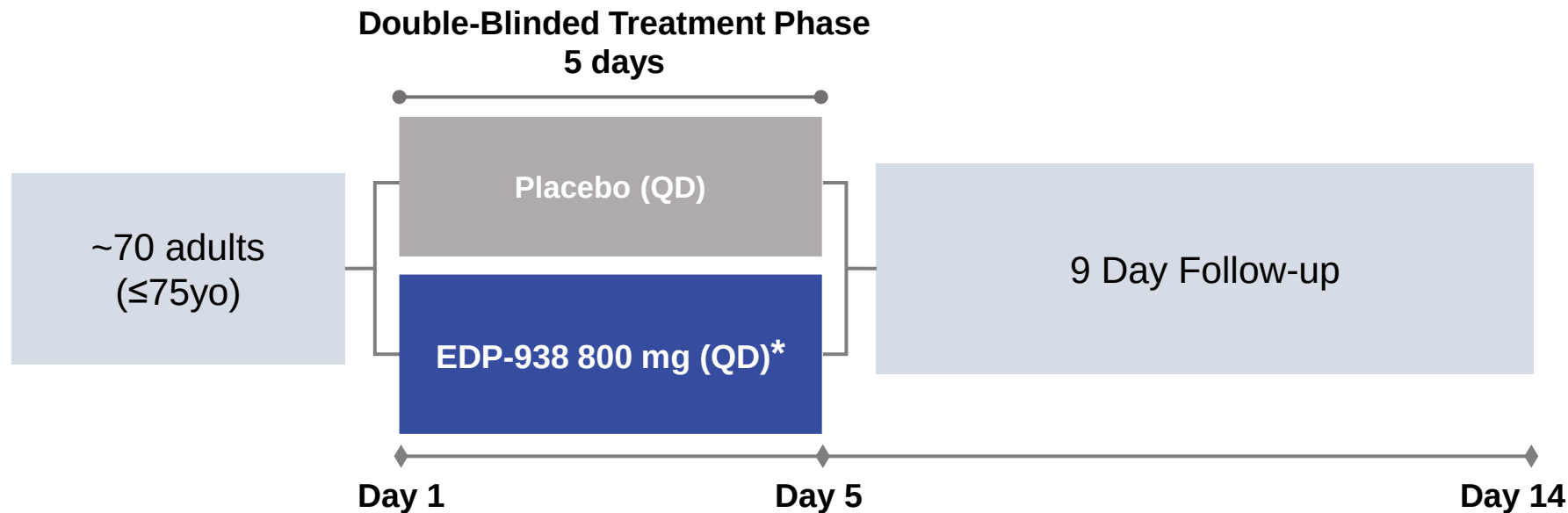


EDP-938 Robust Symptom Reduction

Rapid and Sustained Attenuation of RSV Symptoms in Both Active Arms Compared to Placebo (68%, 74% ↓ AUC; $P < 0.001$)



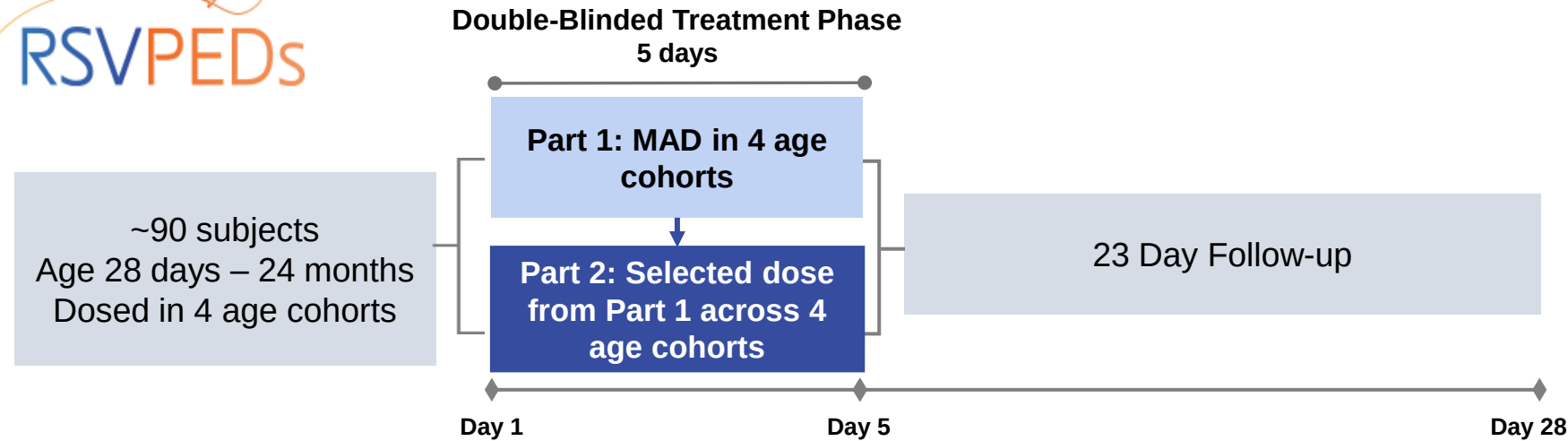
RSVP: A Phase 2b Study of EDP-938 in Adult Outpatients With RSV



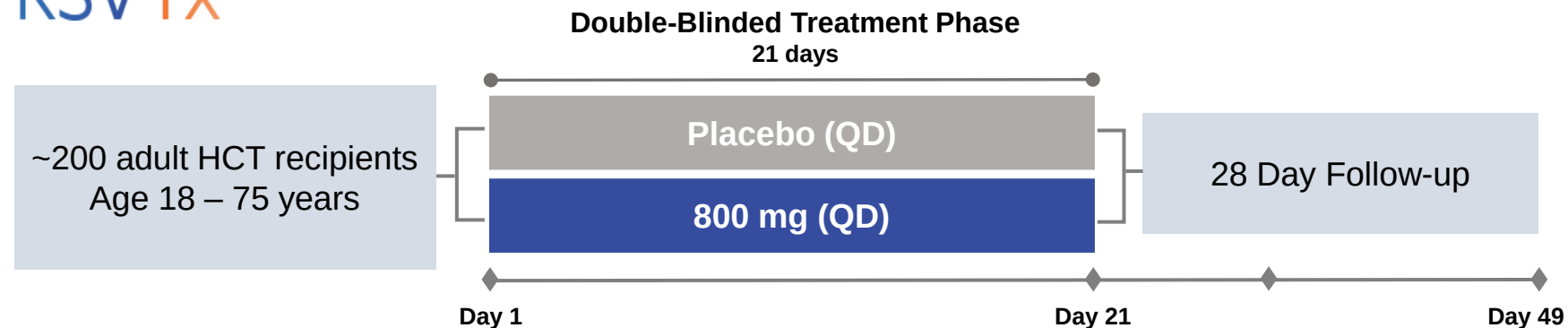
- **Primary Objective:**
Effect of EDP-938 on progression of RSV infection by assessment of clinical symptoms measured over the 14-day study period
- **Secondary Objective:**
Antiviral efficacy, safety and PK of EDP-938

*Equivalent to 600mg suspension dosage form used in challenge study

Two Additional Phase 2 Clinical Trials: RSVPEDs and RSVTx



- **Primary Objective, Part 1:** Safety and PK of EDP-938
- **Primary Objective, Part 2:** Antiviral activity of EDP-938

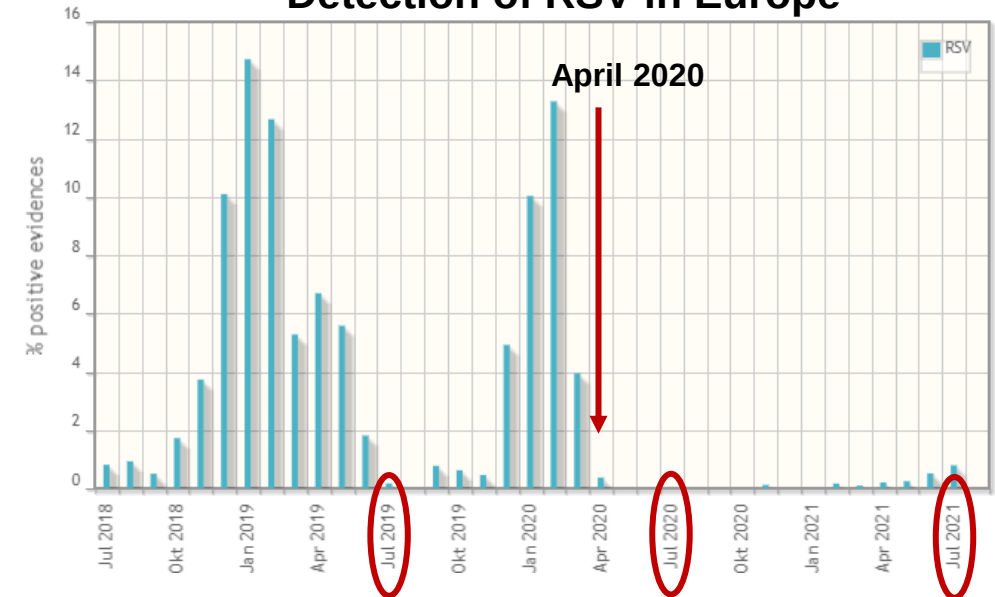


- **Primary Objective:** Effect of EDP-938 on development of LRTC in HCT subjects with acute RSV URTI
- **Secondary Objectives:** Viral load, progression to respiratory failure or all-cause mortality, PRO, PK and safety

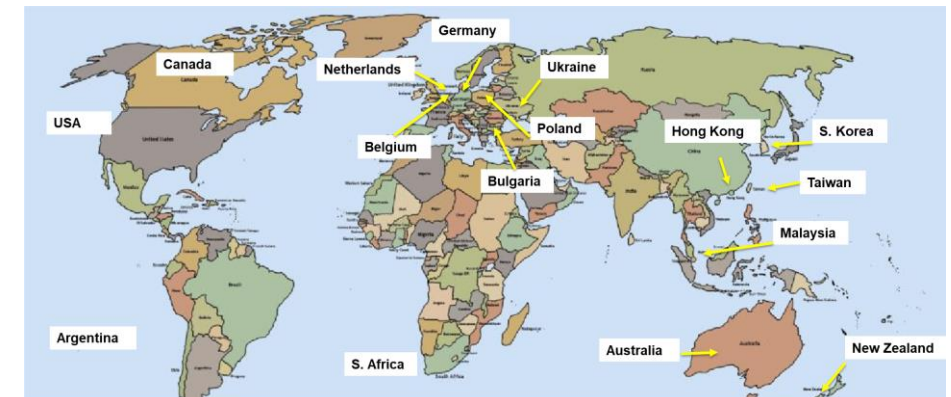
Preparing for When RSV Returns

- RSV, like influenza, did not emerge during the usual late-fall and winter RSV season in the Northern Hemisphere in 2020-2021
- In June, the CDC issued a health advisory to notify clinicians and caregivers about increased interseasonal RSV activity across parts of the Southern United States¹
- Hopeful enrollment in the RSVP study will be complete during the Northern Hemisphere winter season if there are no renewed social distancing interventions
- Assuming this enrollment occurs, data are expected in the first half of 2022

Detection of RSV in Europe²

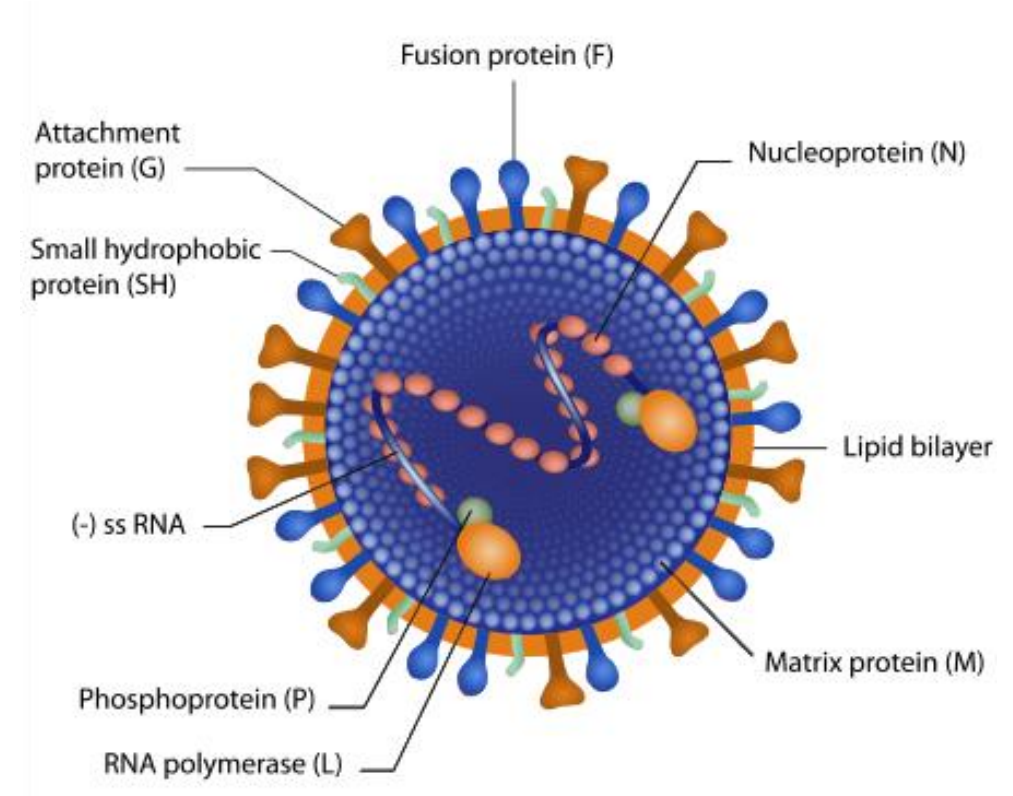


RSVP Clinical Trial Sites

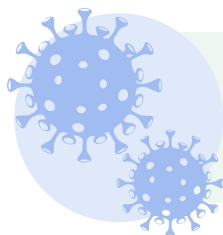


RSV L-Protein Inhibitor

- Enanta's newest RSV program
- RSV L-protein is a viral RNA-dependent RNA polymerase that contains multiple enzyme activities required for RSV replication
- Novel RSV L-protein inhibitor leads have nanomolar potency against RSV-A and RSV-B
- Not expected to have cross resistance to other classes of inhibitors
 - Potential to be used alone or in combination with other RSV mechanisms, such as EDP-938

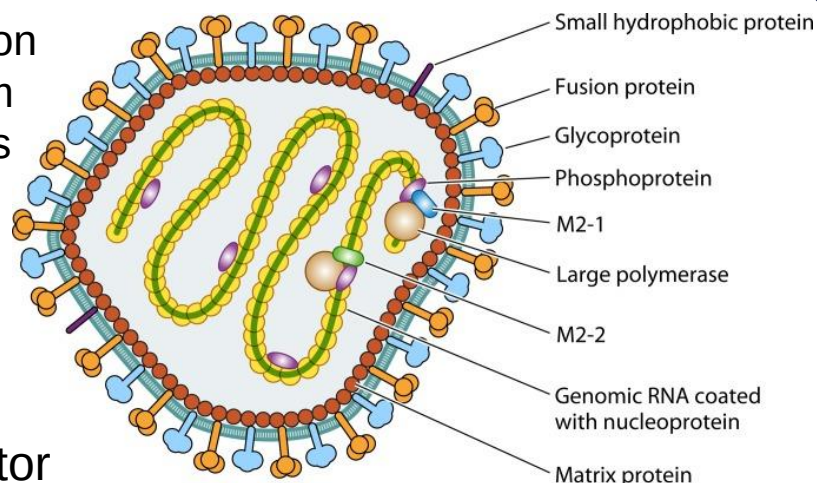


Human Metapneumovirus (hMPV)



Important cause of respiratory tract infections (RTIs), particularly in children, the elderly and immunocompromised individuals

- Paramyxovirus closely related to RSV
 - hMPV replication dependent on several viral proteins that form a multiprotein complex in cells
 - Multiple potential targets for hMPV drug discovery
- No approved vaccine or therapeutics available
- Enanta nanomolar hMPV inhibitor leads under active optimization



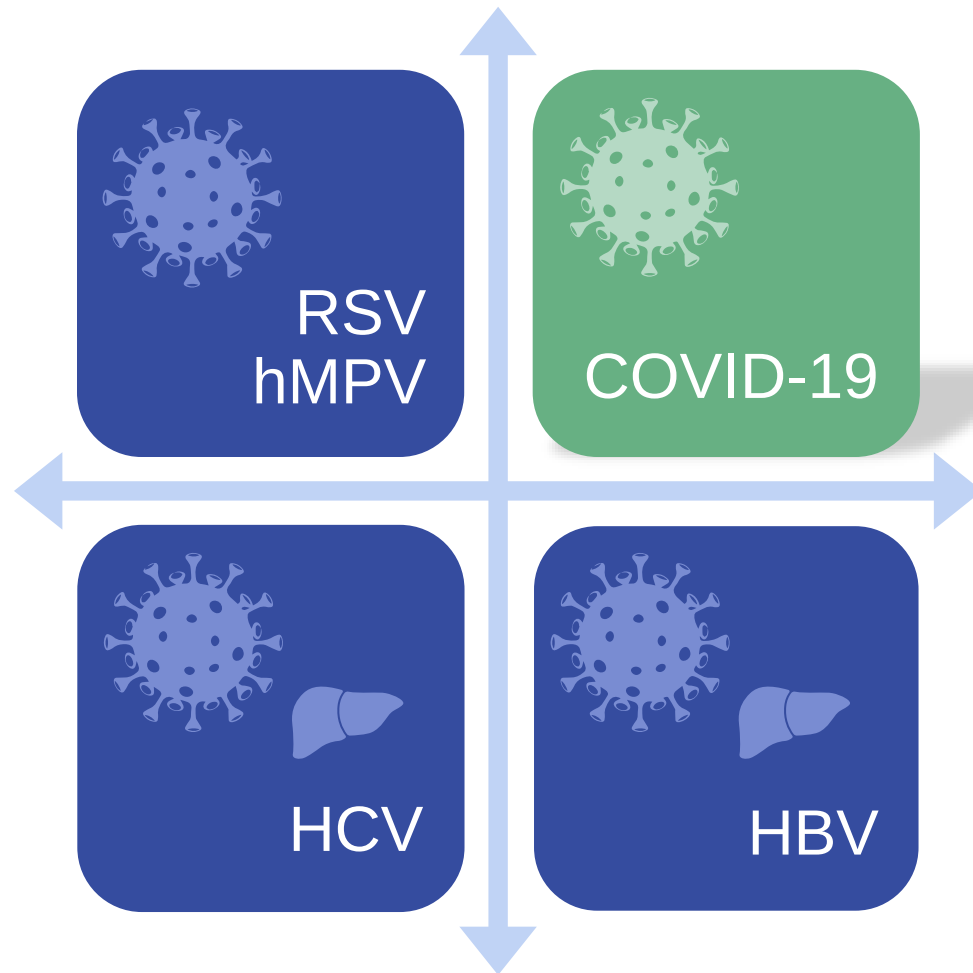
hMPV at a Glance

Serious respiratory infections can occur in children under 5 years old

Second most common cause of lower RTIs in children (behind RSV)

Reinfection with hMPV occurs throughout life

Our Therapeutic Focus

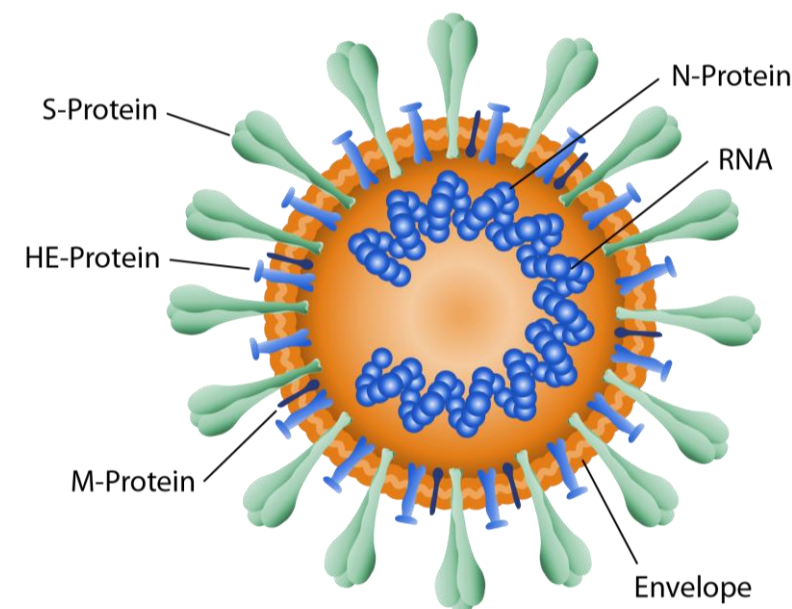


Leveraging our core strength in Hepatitis C to become a leader in oral treatments for **viral** infections and **liver** diseases

Several new therapeutic areas with goal of building multiple approaches in each

EDP-235: SARS-CoV-2 Direct-Acting Antiviral for COVID-19

- Specifically designed to target conserved regions in the active site of an enzyme essential for SARS-CoV-2 replication
 - Mutations in the spike protein aren't expected to significantly affect the activity of EDP-235
- Potently and selectively inhibits SARS-CoV-2 replication in multiple cellular models, including primary human airway epithelial cells ($EC_{90} = 33\text{nM}$)
- Activity is retained against currently circulating SARS-CoV-2 variants
- High barrier to resistance has been observed preclinically
- Demonstrates preclinical properties supportive of once-daily, oral dosing
- Entering the clinic in early 2022



EDP-235 Preclinical Profile Suggests Potential for Best-in-Class Antiviral Treatment for SARS-CoV-2 Infection

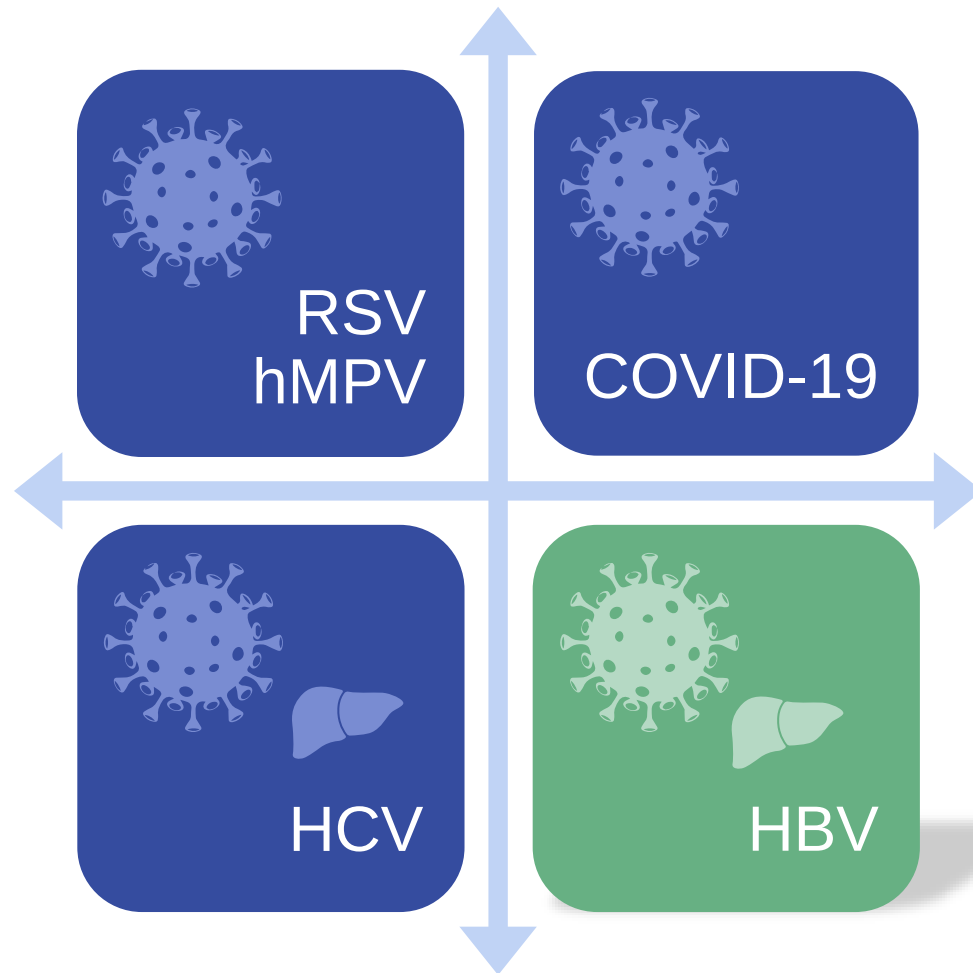
Preclinical Properties		EDP-235 ¹	PF-07321332 ²	PBI-0451 ³	S-217622 ⁴	Molnupiravir ⁵	AT-527 ⁶
Mechanism		Protease	Protease	Protease	Protease	Polymerase	Polymerase
Potency	Enzyme IC ₅₀ (nM)	5.8	19	20 – 30	n/a	n/a	n/a
	Vero Cell EC ₅₀ (nM)	5.1	75	n/a	370	1410*	470** (EC ₉₀ in pHAEC)
Oral Bioavailability ⁷		95%	34 – 50%	n/a	n/a	36 – 56%	n/a
Lung Penetration ⁸		4.1	0.8 ⁹	~1	n/a	1.8	1.2(monkeys); 0.8 (humans)
Projected Efficacious Dose		100 – 500 mg QD	250mg/100mg RTV q12h	500mg BID/ 1500mg QD	QD	800 mg, BID	550 mg, BID

*Data from N-hydroxycytidine (NHC): molnupiravir prodrug of NHC

**Data from AT-511 (AT-527 is the hemi-sulfate salt of AT-511)
 pHAEC: primary human airway epithelial cells

1. Jiang *et al.*, ISIRV Poster #120, Oct 19, 2021
2. Owen *et al.*, [medRxiv](#), July 2021; Pfizer 2Q2021 earnings presentation
3. Pardes Corporate [Presentation](#), June 2021
4. Shionogi [R&D Day](#), 28 Sep-21, Tachibana, *et al.*
5. Grobler *et al.*, ID Week 2021, Poster 543; Painter *et al.*, Antiviral Research Nov 2019
6. Good *et al.*, AAC, 2021; Atea 2Q2021 earnings presentation
7. Oral bioavailability in rats for EDP-235, PF-07321322 and S-217622; in mice for Molnupiravir
8. AUC lung to plasma ratio in rats (EDP-235, PF-07321332), mice (molnupiravir); C₁₂ lung to plasma ratio in monkeys and humans for AT-527
9. Data for PF-07321332 generated by Enanta

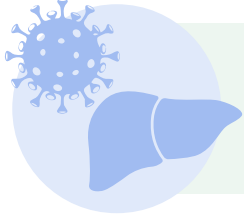
Our Therapeutic Focus



Leveraging our core strength in Hepatitis C to become a leader in oral treatments for **viral** infections and **liver** diseases

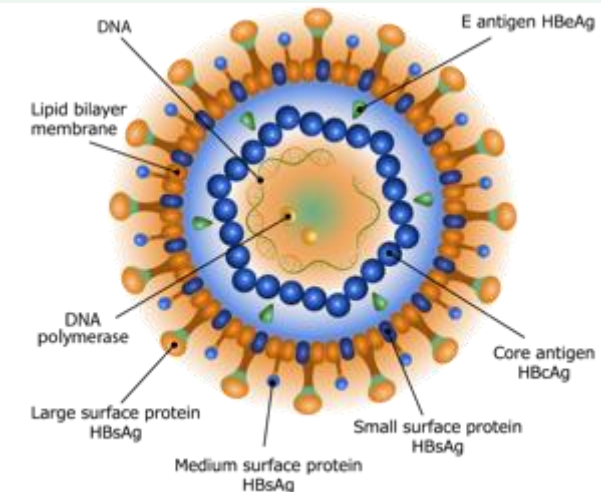
Several new therapeutic areas with goal of building multiple approaches in each

Hepatitis B Virus (HBV)



Potentially life-threatening liver infection caused by the hepatitis B virus

- Estimated worldwide over 200,000 and 300,000 chronic HBV carriers die each year from cirrhosis and hepatocellular carcinoma (HCC) respectively¹
- Current treatments rarely give true cures
 - **Interferon** is ~10% effective, but with side effects²
 - **Reverse-transcriptase inhibitors** effective at reducing viral load, but low cure rates (1% or lower) and treatment for life to improve cirrhosis or HCC outcomes³



HBV at a Glance

US	850K – 2M people ⁴
Europe and European Economic Area	~4.7M people ⁵
Worldwide	~290M people ⁶

Sources: 1. [https://www.journal-of-hepatology.eu/article/S0168-8278\(07\)00637-X/fulltext](https://www.journal-of-hepatology.eu/article/S0168-8278(07)00637-X/fulltext) 2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5401664/>
 3. <https://pubmed.ncbi.nlm.nih.gov/30342034/> 4. <https://jamanetwork.com/journals/jama/fullarticle/2738558>
 5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5356432/> 6. <https://pubmed.ncbi.nlm.nih.gov/29599078/>

EDP-514: HBV Core Inhibitor

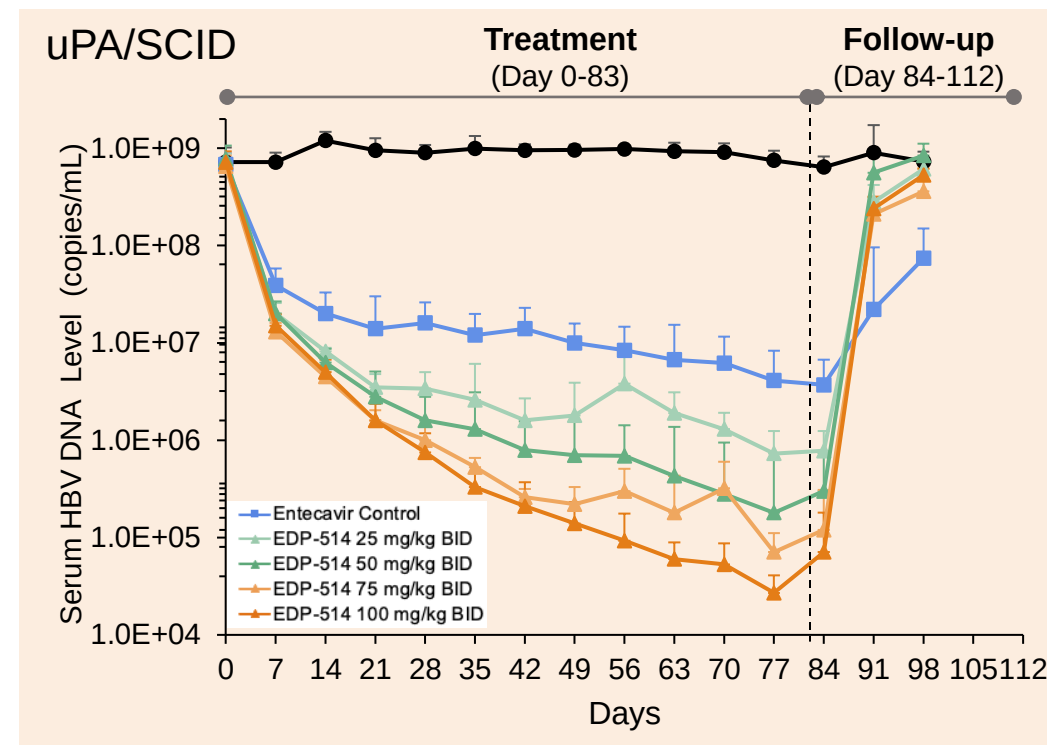
- A novel core inhibitor that displays potent anti-HBV activity at multiple points in the HBV lifecycle
- Granted Fast Track Designation by FDA

- In vitro**
- Potent anti-HBV activity in HBV expressing cell lines
 - Capable of preventing the establishment of cccDNA
 - Pan-genotypic activity

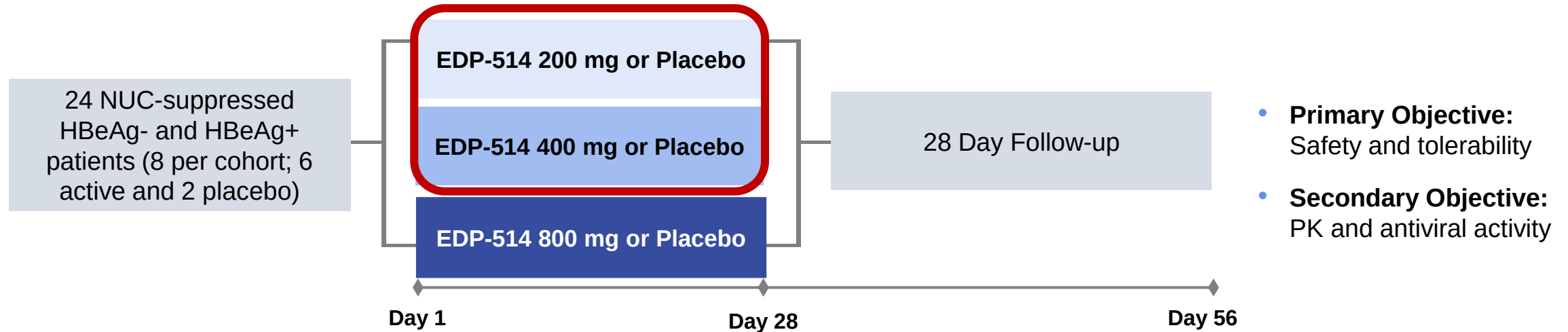
- In vivo**
- Favorable tolerability and pharmacokinetic profile
 - Over 4-log reduction in HBV viral titers with 12 weeks of treatment in a chimeric liver mouse model

- Ph 1a**
- Healthy volunteer SAD/MAD
 - Generally safe and well tolerated for up to 14 days
 - All reported treatment emergent adverse events of mild severity
 - PK supportive of once-daily dosing with no food effect

Efficacious in the Humanized Liver Mouse Model



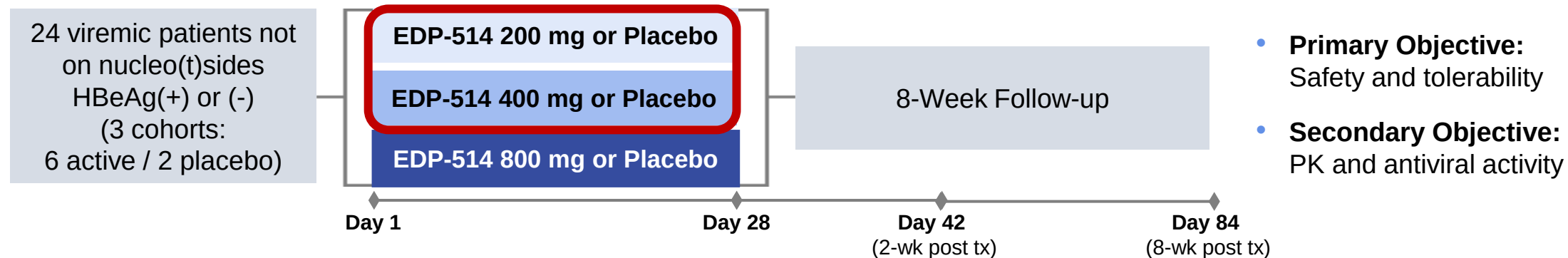
EDP-514 Phase 1: Preliminary Data in NUC-Suppressed Patients



Positive preliminary data from first two dose cohorts: 200 mg and 400 mg of EDP-514

- EDP-514 was safe and well tolerated in NUC-suppressed subjects up to 28 days
- Pharmacokinetics supportive of once-daily dosing, with trough concentrations up to 18-fold the paEC_{50}
- Mean reduction in HBV RNA of 1 log compared with 0.3 log in placebo
 - Maximum reduction of 2.3 log (HBeAg-) and 2.8 log (HBeAg+) was observed in patients receiving EDP-514 as compared with 1.2 log in placebo

EDP-514 Phase 1b: Preliminary Data in Viremic HBV Patients



Positive preliminary data from first two dose cohorts: 200 mg and 400 mg of EDP-514

- EDP-514 was safe and well tolerated in viremic chronic HBV patients dosed for 28 days
 - No Grade 3 TEAEs or SAEs; no liver enzyme elevations or other clinically significant laboratory abnormalities
 - Safety profile remains consistent across healthy subjects and NUC-suppressed patients
- Pharmacokinetics supportive of once-daily dosing, with trough concentrations up to 20-fold the $paEC_{50}$

Antiviral Activity at Day 28	Mean Reduction (log IU/mL)	Maximum Reduction (log IU/mL)	Number of Patients <LLOQ
HBV DNA	2.9 , 3.3 , 0.2 (200, 400, pbo)	EDP-514 : 4.2 Placebo : 0.5	EDP-514 : 4/12 Placebo : 0/4
HBV RNA	2.9 , 2.4 , 0.2 (200, 400, pbo)	EDP-514 : 4.8 Placebo : 1.9	EDP-514 : 10/12 (8 <LOD) Placebo : 1/4 (0 <LOD)

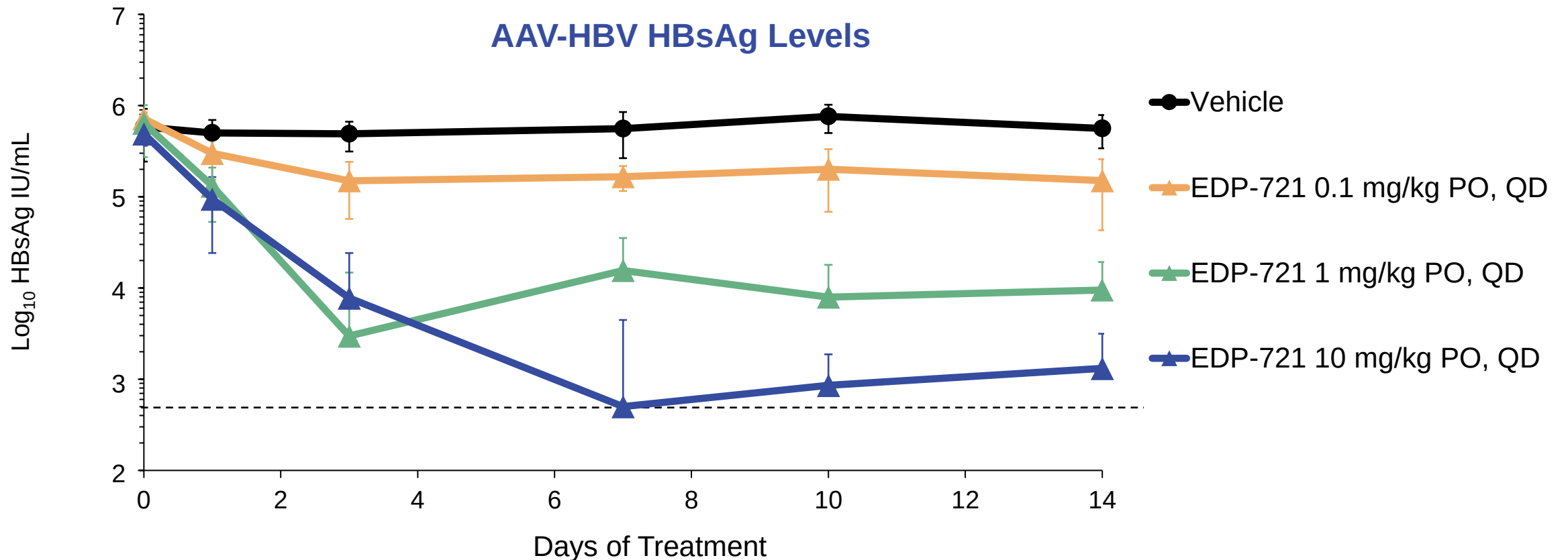
$paEC_{50}$: protein-adjusted EC_{50} , <LLOQ: Below the lower level of quantification, <LOD: Below the limit of detection

EDP-721: HBV RNA Destabilizer

- EDP-721 is an oral small molecule HBV RNA destabilizer that results in reduction of HBsAg
 - High levels of HBsAg suppress immune responses and sustained loss is needed for functional cure
- EDP-721 has a robust preclinical profile with potent reduction in HBcAg, HBeAg, and HBsAg
 - HBsAg EC_{50} = 0.4 nM in primary human hepatocytes
 - Dose dependent HBsAg reductions *in vivo* of up to 3 logs
 - HBV pan-genomic activity
 - Additive to synergistic activity with nucleosides and core inhibitors
- EDP-721 causes HBV RNA destabilization by reducing maintenance of HBV poly(A) tails
 - Potent and selective RNA competitive inhibitor of the host poly(A) polymerases PAPD5 and PAPD7
 - Results in minimal changes to host transcriptome in treated primary human hepatocytes
- Initiated Phase 1 clinical trial in mid-2021 with data expected in the first half of 2022

EDP-721 *In Vivo* Activity

- Dose dependent decrease in HBsAg observed with EDP-721 in AAV-HBV mouse model



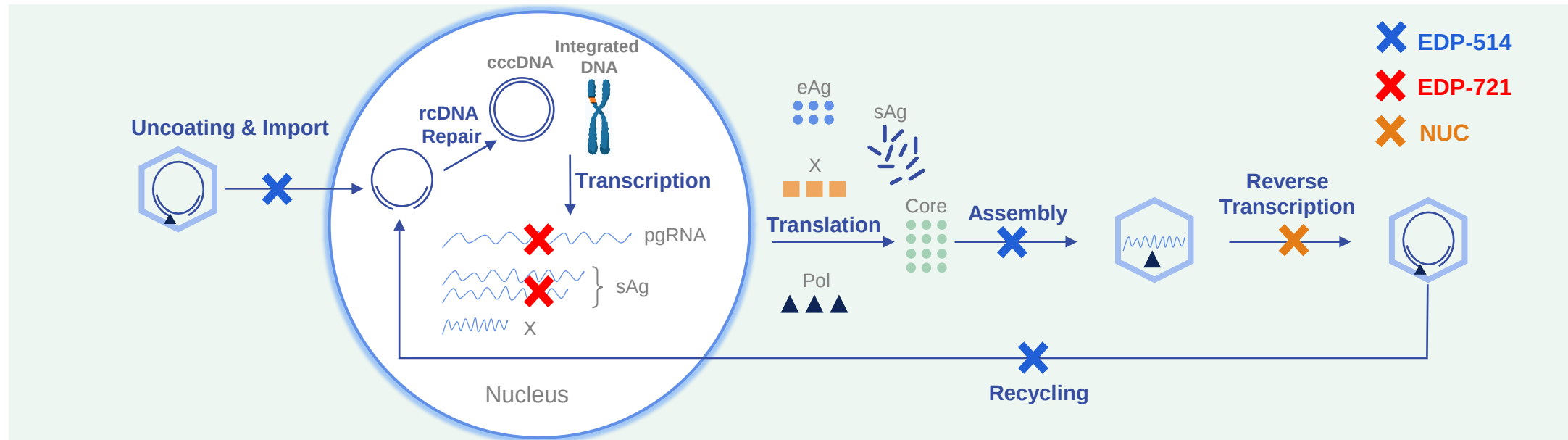
Efficacy of Anti-HBsAg Agents in AAV-HBV Mouse Model

Agent	Modality	Route of Administration	Dose (mg/kg)*	HBsAg Log Drop at Day 14
EDP-721	Small Molecule	PO	10 qd	~3
VIR-2218 ¹	siRNA	SC	9	~3
AB-729 ²	siRNA	SC	3	~2.5
ARB-1467 ²	siRNA	IV	0.3	~1
ALG-125097 ³	siRNA	SC	5	~1
ALG-020572 ⁴	ASO	SC	10	~1.5
PAPD5/7 ASO ⁵	ASO	SC	5	~1.5

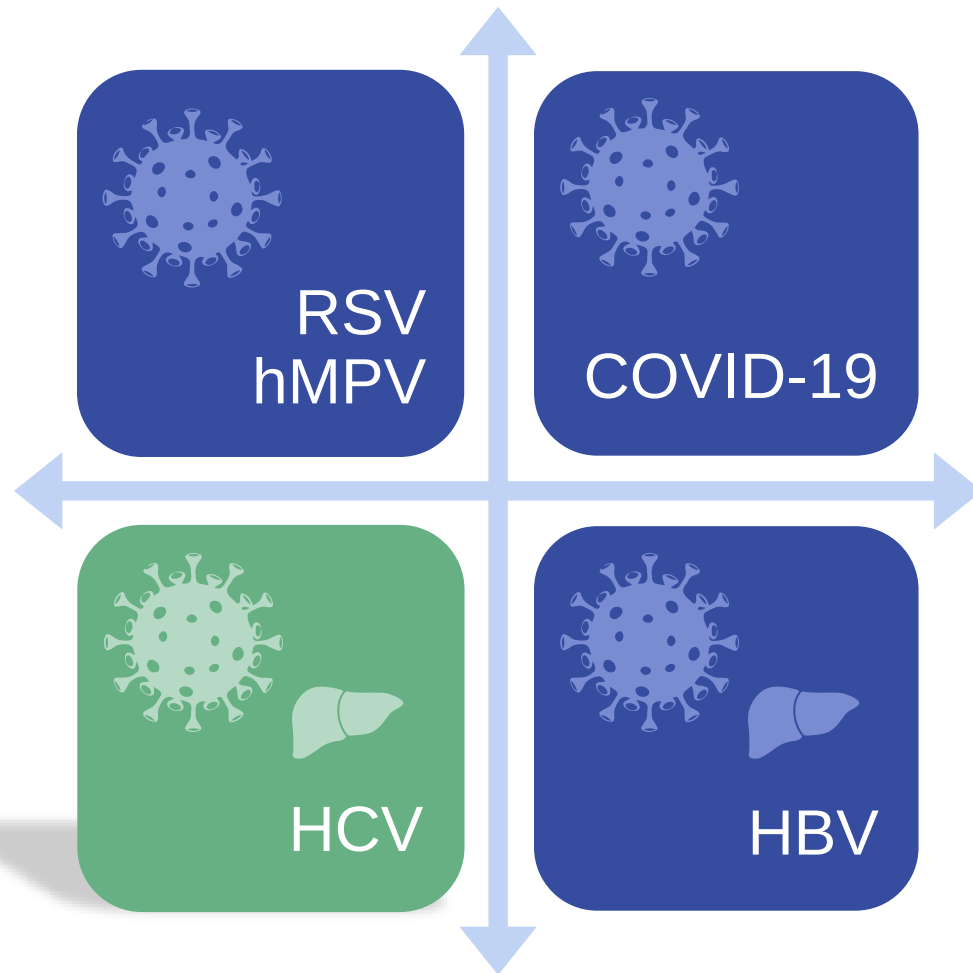
Sources: 1. EASL 2020 Poster SAT426; 2. EASL 2018 Oral Presentation O2646; 3. Jefferies Healthcare Conference 2020; 4. AASLD 2020 Oral Presentation O84; 5. AASLD 2019 Poster P704

Combination Regimen: Potential for Functional Cure

- Combination of multiple antiviral agents can block different points in the HBV life cycle
- Potential to drive rapid and deep suppression of viral replication (**EDP-514** + **nucleos(t)ide**) and suppression of sAg production (**EDP-721**)
- All-oral regimen of **EDP-514**, **EDP-721** and **NUC** has potential to lead to functional cure for HBV



Our Therapeutic Focus

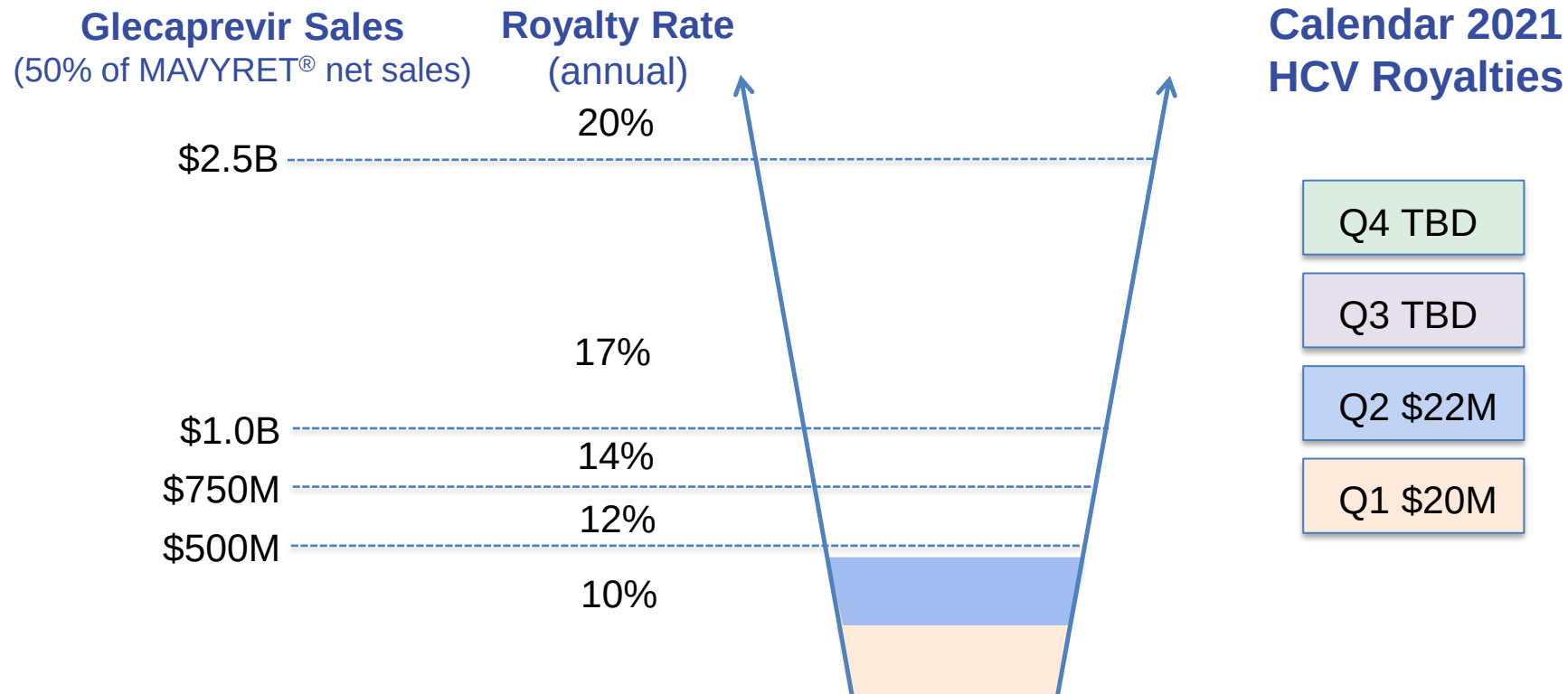


Leveraging our core strength in Hepatitis C to become a leader in oral treatments for **viral** infections and **liver** diseases

Several new therapeutic areas with goal of building multiple approaches in each

Glecaprevir: Our Licensed Protease Inhibitor for Hepatitis C Virus

Product	Regimen	Enanta Asset	Economics*
 glecaprevir/pibrentasvir 100 mg/40 mg tablets	2-DAA (ABBV)	glecaprevir (PI)	Double-digit royalty on 50% of net sales



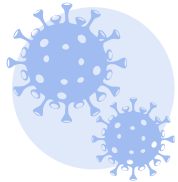
*Enanta also receives royalties on paritaprevir sales (30% of VIEKIRA 3DAA sales, same tiers)

Financial Highlights

(\$ In millions)	Fiscal Year Ended Sept. 30, 2020	Fiscal Quarter Ended June 30, 2021
Total Revenues	\$122.5	\$21.6
R&D Expenses	\$136.8	\$47.0
G&A Expenses	\$27.4	\$8.5
Net Income (Loss)	\$(36.2)	\$(24.0)
Net Income (Loss) per Diluted Common Share	\$(1.81)	\$(1.19)
Balance Sheet		
Cash, Cash Equivalents and Marketable Securities	\$419.3	\$372.5

Key Catalysts 2021

Virology Respiratory



RSV N-Inhibitor EDP-938

- ✓ Initiated RSVTx in Q4 2020
- ✓ Initiated RSVPEDs in Q1 2021
- Complete enrollment for RSVP during Northern Hemisphere winter season

SARS-CoV-2

- ✓ Nominated EDP-235 for SARS-CoV-2 infection

hMPV and RSV L-inhibitor

- Nominate one clinical development candidate

Virology Liver



HBV Core Inhibitor EDP-514 and HBV RNA Destabilizer EDP-721

- ✓ EDP-514 Phase 1b in NUC-suppressed HBV patients; preliminary data reported in Q2 2021
- ✓ EDP-514 Phase 1b in viremic HBV patients; preliminary data reported in Q2 2021
- ✓ Initiated Phase 1 of EDP-721 in mid-2021

ENANTA **Pharmaceuticals**

www.enanta.com

