

Corporate Presentation

December 9, 2024





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, 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 Annual Report on Form 10-K, 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

Leveraging our core strength in small molecule drug discovery to develop treatments for high unmet needs

	Virology:	Phase 2 in pediatric patients with RSV complete
		Phase 2 in high-risk adults with RSV ongoing
Robust Pipeline		Phase 2 challenge study with second RSV candidate complete
		Phase 2 in COVID-19 complete
	Immunology	Preclinical KIT inhibitor (mast cell driven diseases, e.g., CSU)
		Preclinical STAT6 inhibitor (type 2 immune diseases, e.g., atopic dermatitis)
Proven Track Record of Success	Glecaprevir:	HCV protease inhibitor in MAVYRET®/MAVIRET®
Strong Balance Sheet	Strong balan \$248.2M in ca	ce sheet and royalties to support robust pipeline ash at September 30, 2024
	· · · · · · · · ·	© 2024 Enanta Pharmaceuticals. Inc. 3



Enanta Pipeline

	DISEASE	TARGET	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	MARKET
Virology: Liver	Hepatitis C Virus	Protease	Glecaprevir*					glecoprevir/plurentasvir
	Hepatitis B Virus	Core	EDP-514**					
	Respiratory Syncytial Virus	N-Protein	Zelicapavir (EDP-938)		Pediatrics		
Virology:			Zelicapavir (EDP-938)	High R	Risk Adults		
Respiratory		L-Protein	EDP-323		(challenge	study)		
	COVID-19	3CL Protease	EDP-235**			SPRINT		
Immunology: Type 2 Immune Diseases	Chronic Spontaneous Urticaria***	КІТ						
	Atopic Dermatitis***	STAT6						

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

**Continued development dependent on a future collaboration.

***Initial indications. Potential future indications include asthma, chronic inducible urticaria (CIndU), eosinophilic esophagitis (EoE), prurigo nodularis (PN), and others.

Virology: Hepatitis C Virus







Glecaprevir: Our Licensed Protease Inhibitor for Hepatitis C Virus



Virology: Respiratory Syncytial Virus







Respiratory Syncytial Virus (RSV)



Causes severe lung infections, including bronchiolitis (infection of small airways in the lungs) and pneumonia. Leading cause of hospitalization in infants¹. No safe and effective treatments are currently approved.

Populations at higher risk for severe illness:

- Pediatrics (infants and children)
- High-risk adults (>65 yrs, COPD, asthma, CHF)
- Immunocompromised (e.g. HIV, transplant)

RSV at a Glance					
Children < 5 years ²	Adults > 65 years ³				
33M global cases					
3M global hospitalizations	177K U.S. hospitalizations				
101K global deaths	14K U.S. deaths				

Significant unmet need for antiviral treatment despite availability of prophylaxis:

- Adoption of adult vaccines is sub-optimal and not recommended for all FDA-approved patient groups*
 - Peak adoption of vaccines for elderly range from ~35% (shingles⁴) to ~55% (flu⁵)
- Pediatric prophylaxis approaches provide passive immunity; will shift first infection to next season
 - Antibody approach has a low barrier to resistance
- Even with adoption, breakthrough infections will still occur

*FDA-approved for adults age \geq 60 & 50-59 years who are at increased risk for LRTD caused by RSV⁶ ACIP-recommended for adults age \geq 75 years and age 60-74 years at increased risk of severe RSV⁷



Zelicapavir (EDP-938): N-Protein Inhibitor for RSV

- Zelicapavir is currently the only N-inhibitor in clinical development for RSV
 - Replication inhibitor: shuts down the production of new virions (vs. fusion inhibitors which block viral entry)
- Granted Fast Track designation by the FDA
- Strong preclinical profile
 - Nanomolar potency against RSV-A and RSV-B
 - Antiviral potency across all clinical isolates tested
 - High-barrier to resistance
 - Synergistic activity and no cross-resistance with other drug mechanisms (e.g. L-inhibitors)
- Favorable safety and efficacy profile in clinical studies observed to date
 - Phase 2a challenge study showed a statistically significant (p<0.001) reduction in both viral load and clinical symptoms compared to placebo



Zelicapavir Development Plans:



Treatment for Patients at High-Risk for Severe RSV Infection

High-risk populations have reduced RSV immunity, resulting in a higher and longer duration of viral load and greater disease severity, allowing a bigger window to observe benefit **Goal:** Treat patients at high-risk for developing severe infection leading to hospitalization or death, populations with the most significant unmet need



Age ≥65 years

Chronic heart or lung disease (e.g. COPD, CHF, asthma)

RSVPEDs

Infants and young children

Zelicapavir Phase 2 High-Risk Adult Study: **Design & Objectives**



PROs, MAVs, viral load, antibiotic use, bronchodilator use, corticosteroid use,

The total proportion of subjects either 65-74 years of age or patients with asthma combined will be capped at 20%.

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

© 2024 Enanta Pharmaceuticals. Inc. | 11



Time to resolution of RSV

assessed by RiiQ symptom

scale through Day 33

hospitalization, ICU,

safety

mechanical ventilation, all cause mortality, PK and

Zelicapavir Phase 2 Pediatric Study: Design & Objectives



- First zelicapavir pediatric study: safety and dose selection
- Signal finding in different patient populations to inform a potential registration-enabling trial
 - − Age: ≥28 days to <6 months and ≥6 months to ≤36 months
 - Time from symptom onset to treatment
 - Hospitalized or outpatient

Zelicapavir Phase 2 Pediatric Study: Virology Summary



- Antiviral effect observed for the primary and secondary virology endpoints in overall population
- Viral load decline in Part 2 of 1.0 log at Day 3 and 1.4 log at Day 5 vs placebo
- Rapid and robust virology effects observed in prespecified subset of patients who were randomized within 3 days of symptom onset (mITT-3)
 - Represents ~40% of the study population (n=38/96)
 - Viral load decline of 0.9 log at Day 3 and 1.2 log at Day 5 vs placebo
 - Greater proportion of patients had undetectable viral load at Days 5 and 9 vs placebo
 - Qualitative improvement in time to undetectable viral load at early timepoints, although median time to undetectable viral load was similar between groups
 - Improvement in AUC of change from baseline for viral load at all timepoints vs placebo
- Results were similar regardless of age or setting of care (outpatient and hospitalized)

Zelicapavir Phase 2 Pediatric Study: Primary Endpoint – RSV PCR Viral Load for All Patients (Part 1 & 2)

• Trend toward greater viral load decline in patients treated with zelicapavir compared to placebo



Zelicapavir Phase 2 Pediatric Study: Primary Endpoint of Part 2: RSV PCR Viral Load



• Viral load decline of **0.96 log** at Day 3 and **1.41 log** at Day 5



Zelicapavir Phase 2 Pediatric Study: Prespecified mITT-3 Population: RSV PCR Viral Load



• Viral load decline of **0.88 log** at Day 3 and **1.18 log** at Day 5



Zelicapavir Phase 2 Pediatric Study: Exhibited Favorable Safety Profile in Children



- Adverse events (AEs) were similar between zelicapavir dosing groups and placebo
- No adverse events led to treatment discontinuation or study withdrawal

	Description	Zelicapavir (pooled) (N=70)	Placebo (pooled) (N=26)
	Treatment emergent AEs (TEAEs)	28 (40.0%)	13 (50.0%)
	Study drug related TEAEs	6 (8.6%)	0 (0.0%)
	Grade 3 or higher TEAEs	2 (2.9%)	1 (3.8%)
	Serious TEAEs	1 (1.4%)	2 (7.7%)

Zelicapavir Phase 2 Pediatric Study: AEs Occurring in More than One Patient in Any Group



- Adverse events (AEs) were balanced between zelicapavir and placebo
- The two most common AEs in the zelicapavir group were diarrhea and rash

Preferred Term	Zelicapavir (pooled) (N=70)	Placebo (pooled) (N=26)
Diarrhea	7 (10.0%)	1 (3.8%)
Rash	3 (4.3%)	1 (3.8%)
Otitis media acute	2 (2.9%)	1 (3.8%)
Eczema	2 (2.9%)	1 (3.8%)
Thrombocytosis	2 (2.9%)	0 (0%)
Nasopharyngitis	1 (1.4%)	2 (7.7%)

Zelicapavir Phase 2 Pediatric Study: Conclusions

- Well tolerated, with favorable safety profile
 - No adverse events leading to treatment discontinuation or study withdrawal
- Antiviral effect observed for the primary and secondary virology endpoints in overall population
- Viral load decline of 1.4 log at the end of treatment in Part 2
- Viral load decline of 1.2 log at Day 5 observed in prespecified subset of patients randomized within 3 days of symptom onset
- RSV Signs/Symptoms
 - ReSViNET: No difference in signs/symptoms between groups
 - RESOLVE-P: Trend toward greater signs/symptom reduction with zelicapavir in a small dataset
- Data support further clinical development of zelicapavir



Primary Objectives of Study

- ✓ Overall: Antiviral activity of zelicapavir across all patients
- ✓ Part 1: Safety and PK

✓ **Part 2:** Antiviral activity



EDP-323: RSV L-Protein Inhibitor

- Direct-acting antiviral targeting the L-protein
 - Replication inhibitor: shuts down the production of new virions (vs. fusion inhibitors which block viral entry)
- Granted Fast Track designation by the FDA
- Potential to be used alone or in combination
 - Additive to synergistic activity with zelicapavir
 - No cross resistance expected with other mechanisms
- Sub-nanomolar potency against RSV-A and B
- Protects mice in a dose-dependent manner from RSV infection
- Phase 1 indicated 200mg or 600mg once-daily as potential safe and efficacious doses



EDP-323 Demonstrated Favorable Safety Profile and Achieved Target Exposure Levels in Human Challenge Model



- Favorable safety profile over a 5-day dosing period and through 28 days of follow-up
- No serious or severe AEs and no AEs leading to treatment discontinuation or study withdrawal
- AEs were similar between EDP-323 dosing groups and placebo
- No specific pattern of treatment-emergent AEs was identified

	Description	EDP-323 600mg (N=47)	EDP-323 200mg w/ LD* (N=47)	Pooled EDP-323 (N=94)	Placebo (N=47)
	Any treatment emergent AEs	11 (23.4%)	14 (29.8%)	25 (26.6%)	13 (27.7%)
	Any treatment emergent AEs considered related to study treatment	1 (2.1%)	1 (2.1%)	2 (2.1%)	0 (0.0%)

 EDP-323 mean trough plasma concentrations were maintained at 16- to 35-fold above the protein adjusted EC₉₀ against both RSV A and B strains

EDP-323: Robust Antiviral Effect in Human Challenge Model Primary Efficacy Endpoint: 85-87% ↓ in VL AUC by qRT-PCR



- Highly statistically significant reductions in VL AUC measured by qRT-PCR compared to placebo
 - No statistically significant difference between the two EDP-323 dosing regimens; 600mg and 200mg (with 600mg loading dose)



EDP-323: Robust Antiviral Effect in Human Challenge Model Secondary Efficacy Endpoint: 97-98% ↓ in VL AUC by Viral Culture



- Highly statistically significant reductions in infectious VL AUC measured by quantitative culture compared to placebo
 - No statistically significant difference between the two EDP-323 dosing regimens; 600mg and 200mg (with 600mg loading dose)



EDP-323: Robust Symptom Alleviation in Human Challenge Model Secondary Efficacy Endpoint: 66-78% Reduction in Symptoms

- Highly statistically significant reductions in TSS AUC in both EDP-323 arms compared to placebo
 - No statistically significant difference between the two EDP-323 dosing regimens; 600mg and 200mg (with 600mg loading dose)



TSS AUC: Area Under the Curve over time of Total Clinical Symptoms Score (10 items; hours x score); SE: standard error

Virology: SARS-CoV-2







EDP-235: Oral Protease Inhibitor Designed for COVID-19

- Oral antiviral specifically designed to target SARS-CoV-2 3CL protease
- Granted Fast Track designation by the FDA
- Potent and selective inhibition of SARS-CoV-2 3CLpro enzyme
 - Potent inhibition in multiple cellular models
 - Potent against all SARS-CoV-2 variants of concern to date
- Preclinically active against other human coronaviruses
- High barrier to resistance preclinically
- Good target tissue distribution (e.g. lung to plasma AUC ratio >4)
 - Other COVID protease inhibitors lung to plasma AUC ratio <1
- Robust treatment effect and prevention of transmission in ferret model
- Phase 1 supported 200 or 400mg once-daily as safe and efficacious dose
 - Plasma drug levels 7-13x higher than the EC_{90} , without ritonavir boosting
- Phase 2 study (SPRINT) supports advancement to Phase 3





Safety

- EDP-235 was generally safe and well tolerated
- Low frequency of adverse events; most were mild in severity
 - 1.3%, 6.4%, and 2.6% in the EDP-235 200mg, 400mg and placebo arms
- No serious adverse events or discontinuations due to adverse events

Clinical Symptoms

- Statistically significant improvement in total symptom score (TSS) achieved at multiple timepoints for EDP-235 400mg
 - Patients enrolled within 3 days of symptom onset showed a statistically significant improvement in TSS for EDP-235 400mg at all time points
- No difference in time to 14 symptom improvement for EDP-235 compared with placebo
 - EDP-235 400mg significantly reduced duration of 6 symptom subset by 2-days compared to placebo in patients enrolled within 3 days of symptom onset (1-day for ITT-c population; 2-day for patients enrolled within 3 days of symptom onset)

Virology

- No difference between treatment arms and placebo for viral RNA decline
 - Additional analyses demonstrate virologic effect in multiple patient subsets at 400mg: 0.4 log for baseline viral load >5 log, 0.8 log for nucleocapsid negative (suggesting no recent natural infection), and 1 log for nucleocapsid negative and symptom onset within 3 days
- High degree of nucleocapsid positivity & rapid decline in nasal RNA in all study arms indicates a highly immune population

Immunology





Building Enanta's Immunology Portfolio: Focusing on Best-in-Disease Treatments

Exploit novel biology to select targets with **potential in multiple indications** Leverage innovative chemistry to develop **best-in-class** small molecule drugs





Immunology Portfolio: Advancing Multiple Targets in Pipeline





Enduring unmet need in multiple diseases driven by Type 2 immune phenotype

- Type 2 inflammation is characterized by overproduction of IL-4, IL-5, IL-13, and IgE which recruits and activates Th2 CD4 T cells, B cells mast cells, eosinophils, and basophils
- Potential to treat broad patient populations across numerous disease areas









Immunology: KIT Inhibitor







KIT Inhibitors Offer Potential for Differentiated Efficacy

- Mast cells: primary driver of inflammation in skin, and implicated in multiple allergic diseases
 - Urticaria, asthma, eosinophilic esophagitis (EoE), and prurigo nodularis (PN)
- **KIT:** well-characterized receptor tyrosine kinase critical for regulating mast cell activity
- KIT inhibitors: potential for best-in-disease efficacy
 - Directly reduces quantity of mast cells through apoptosis and depletion, addressing key disease driver
 - Current therapy reduces mast cell activator levels or downstream mediators, but not mast cells directly
 - Positive proof-of-concept in urticaria and PN with anti-KIT mAb



Chronic Spontaneous Urticaria KIT Inhibitor Initial Focus for Clinical POC

- Severely debilitating, chronic inflammatory skin disease^{1,2}
 - Driven by mast cell activation, triggering release of inflammatory mediators
 - Quality of life impacts beyond the skin: sleep disturbances, fatigue, irritability, anxiety and depression
- Affects ~0.5-1% of the global population¹
- Substantial unmet need for efficacious oral agent
 - ~50% not controlled with antihistamines^{1,3}
 - Minority treated with one indicated biologic (<30%)⁴









Goal of Oral KIT Inhibitor Program:



Develop Best-in-Class Treatment for Mast Cell Mediated Diseases

- EPS-1421 selected as development candidate
 - Inhibits KIT with nanomolar potency in both binding and cellular assays
 - Highly selective for KIT versus other kinases
 - Good *in vitro* and *in vivo* ADME properties
 - Good PK profile across multiple preclinical species
 - No GSH adducts (or reactive metabolites) detected *in vitro* or *in vivo*
 - Low drug-drug interaction potential via CYP inhibition

EPS-1421 KIT Inhibitor Exhibits Potent Inhibition



Binding and Cell Based Assays

Potency: Prevents KIT mediated cellular proliferation with EC_{50s} between 2-11 nM

	Assay*	EC ₅₀ (nM)
	KINOMEscan Kd	0.8
	M-07e Cell Proliferation	11
а Д	UT-7 Cell Proliferation	3
	KIT Ba/F3 Proliferation	2
	CD34 ⁺ Derived Mast Cell Degranulation	4
	phosphoKIT	2



EPS-1421 KIT Inhibitor Demonstrates Good Selectivity

 Selectivity: >500x more selective for KIT over other KIT family members CSF1R, PDGFRα, & PDGFRβ in cell based assays^{*}

Selectivity	EPS-1421
S(10) @ 1 µM	0.015
CSF1R	>500x
PDGFRα	>1300x
PDGFRβ	>1100x
FLT3 Kd	>1800x



Immunology: STAT6 Inhibitor







STAT6 Inhibitors Offer Potential for an "Oral DUPIXENT[®]"

- Th2 dysregulation drives allergic and autoimmune diseases including atopic dermatitis and asthma
 - Characterized by IL-4 & IL-13 overproduction
- STAT6: transcription factor responsible for IL-4/IL-13 signaling, which drives a Th2 dominant phenotype
 - STAT6 gain-of-function variants result in severe atopic dermatitis¹
 - STAT6 loss-of-function protects against type 2 high asthma²
 - Inhibition of the IL-4/13 pathway is clinically validated
- STAT6 inhibitors: potential for an "oral DUPIXENT"
 - Blocks IL-4/13 signaling pathway
 - Reduces inflammation in Th2 driven preclinical models
 - No oral therapy selectively targeting IL-4/13 pathway available



STAT6 Inhibitor Initial Focus for Clinical POC: Atopic Dermatitis (AD)

- Chronic dermatological disease characterized by dry, red, inflamed, irritated and itchy skin
 - Driven by Th2 immune dysregulation¹
 - Quality of life impacts beyond the skin: limited lifestyle, avoidance of social interaction and impacted activities¹
- 7.3% of US adults, ~40% have moderate-severe symptoms²
- Significant need for efficacious and safe oral agents
 - Market dominated by mAb (IL-4/13)
 - Oral JAK inhibitors used <10%³, with boxed warning: serious infections, mortality, malignancy, major adverse cardiac events, thrombosis⁴









Discover Novel Potent and Selective Oral STAT6 Inhibitors

- Novel, oral inhibitors of STAT6 being optimized in discovery stage
- Prototype STAT6 inhibitors:
 - Potently inhibit STAT6 activity in both biochemical and cellular assays
 - Highly selective over other STATs in biochemical and cellular assays
 - Demonstrates systemic *in vivo* target engagement after *ex vivo* IL-4 stimulation



2024 Key Catalysts

Virology	 Respiratory Syncytial Virus ✓ Zelicapavir: Report Phase 2 RSVPEDs data in Q4 24 ✓ EDP-323: Report Phase 2a challenge study data in Q3 24
Immunology	 KIT Inhibition ✓ Select KIT inhibitor development candidate in Q4 24 (EPS-1421) STAT6 Inhibition ✓ Initiate lead optimization (STAT6 inhibitor)
Business Development	 SARS-CoV-2 EDP-235: Pursue partnership for Phase 3 study Hepatitis B Virus EDP-514: Identify third mechanism and/or out-license



www.enanta.com

