Leader in HDV
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# Highlights

## DIVERSE PIPELINE
- Focus on rare and ultra-rare diseases with no approved therapies
- Late stage assets with paths to commercialization
- 4 Breakthrough Therapy Designations

## LEADER IN HDV
- Only oral therapy in development (Lonafarnib)
- Two complementary therapeutic options (Lonafarnib and Peginterferon lambda)
- $1B annual commercial opportunity in U.S. and E.U.

## PROGERIA NDA & MAA FILED
- Lonafarnib U.S. approval expected in 2020
- Priority Review Voucher upon approval
- Preparing for commercial launch

## AVEXITIDE PROGRAM
- Phase 3 ready for Post-Bariatric Hypoglycemia
- Congenital Hyperinsulinism program with PRV opportunity
Eiger HDV Franchise

CONVENIENCE AND OPTIONALITY FOR HDV PATIENTS

- Potential HDV cure and maintenance therapies
- Foundational therapies for future combinations
HDV is Always a Co-infection with HBV

**HDV REQUIRES HBsAg TO COMPLETE VIRUS ASSEMBLY**

**HDV** consists of a single stranded, circular RNA virus, with an envelope made up of HBsAg.

- **HDV genome**
- **Small delta antigen**
- **Large delta antigen**

**HBsAg Acquired Through PROTEIN PRENYLATION**

This is mechanism targeted by lonafarnib.
HDV: Most Severe Form of Viral Hepatitis

Always a Co-infection with HBV

Rapid Disease Progression to Cirrhosis

- 20% within 5 years
- 70% within 5-10 years

HDV Mono-infection

HBV Mono-infection

HDV/HBV Co-infection

Hepatitis B Population

HDV 4-6%
15-20M HDV Patients Worldwide

~4-6% OF HBV-INFECTED POPULATION

Migration Contributing to Globalization of Disease

HDV
Anti-HD (HBsAg+)
- No Data
- 0-5%
- 6-20%
- 21-60%
- >60%

100K+ IN U.S.
200K+ IN WESTERN EUROPE
HDV: High Unmet Need and Disease Burden

LOW SURVIVAL RATE

~60% Mortality\(^1\)
Within 10 Years

Similar to some cancers

HIGH COST TRANSPLANTS

~$575K Cost\(^2\)
>14,000 person Waiting List

25% of people on waiting list die each year before receiving a liver transplant\(^1\)

No approved treatment

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\(^1\) Serrano et al, EASL 2011  
\(^2\) UPMC Health Beat, 2018, US liver transplant cost
> $1B HDV Market Opportunity

**CONSERVATIVE MARKET PENETRATION, ORPHAN PRICING**

<table>
<thead>
<tr>
<th>ADDRESSABLE MARKET</th>
<th>CONSERVATIVE PENETRATION</th>
<th>ORPHAN PRICING</th>
</tr>
</thead>
<tbody>
<tr>
<td>~300,000 Patients¹</td>
<td>~3% of Patients²</td>
<td>~$150,000 in US, ~$98,000 in EU</td>
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<tr>
<td>~100K in US</td>
<td>~3K in US</td>
<td>Per Year³</td>
</tr>
<tr>
<td>~200K in EU</td>
<td>~6K in EU</td>
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</table>

³ Conservative penetration for illustrative purposes  
² Pricing for illustrative purposes

>$1B Potential Peak Year Market Opportunity²,³
Complementary Treatments for HDV

Lonafarnib + Ritonavir
1st in class small molecule, oral prenylation inhibitor
Phase 3

Peginterferon Lambda
1st in class type III interferon
Phase 3 Ready
Lonafarnib for HDV

**FIRST AND ONLY ORAL AGENT IN DEVELOPMENT FOR HDV**

- Well-characterized in patients
  - > 2,000 patients dosed in oncology program by Merck (Schering)
  - > 90 children dosed in Progeria program by Boston Children’s Hospital
  - > 170 patients dosed in HDV program
  - Longest duration of dosing > 10 years
- Most common experienced AEs are GI related (class effect)
- **Orphan Designation** U.S. and EU
- FDA **Breakthrough Therapy** Designation
- EMA **PRIME** Designation
- Patent estate covers broad range of lonafarnib + ritonavir doses and durations
Reducing HDV-RNA Improves Survival

**HDV-RNA REDUCTION IMPROVES CLINICAL OUTCOMES**

**Interferon-α for 48 Weeks with 15 year Follow Up**

**Change in HDV-RNA**

![Bar chart showing change in HDV-RNA with different dosages of interferon-α and controls.](image)

- **Log Change in Serum HDV-RNA**
  - Interferon-α 9 MU: n = 13
  - Interferon-α 3 MU: n = 12
  - Controls: n = 11
  - P = 0.009

**Survival**

![Survival curve showing proportion of patients surviving years after termination of therapy.](image)

- **Proportion of Patients Surviving**
  - Interferon-α 9 MU: 1.0
  - Interferon-α 3 MU: 0.8
  - Controls: 0.6

*Farci et al, Gastroenterology 2004: Long-Term Benefit of Interferon-α Therapy of Chronic HDV: Regression of Advanced Hepatic Fibrosis*
Lonafarnib Phase 2 Data

TWO LONAFARNIB-BASED REGIMENS IDENTIFIED FOR REGISTRATION

Change in Log HDV-RNA

Week

0 4 8 12 16 20 24

100-fold INCREASE IN ACTIVITY

LNF 50 mg BID + RTV (N=12)

LNF 50 mg BID + RTV + PEG IFN-alfa-2a (N=4)

COMPOSITE ENDPOINT

≥ 2 log Decline HDV-RNA + ALT Normalization

29%

63%

Yurdaydin et al, J Hepatology 2018, Phase 2 LOWR 2 Study, Abstract #PS-161
All patients will be maintained on background HBV nucleoside therapy. Superiority over PEG IFN-alfa-2a not required.

N=400 allows for single pivotal study for registration.
Phase 3 Global Study

**ORAL PATHWAYS TO APPROVAL**

N = 400 allows for single pivotal study for registration

- **N = 175**
  - **ORAL**
    - Lonafarnib 50 mg BID
    - Ritonavir 100 mg BID
  - Follow Up

- **N = 125**
  - **COMBO**
    - Lonafarnib 50 mg BID
    - Ritonavir 100 mg BID
    - PEG IFN-alfa-2a
  - Follow Up

- **N = 50**
  - **MONO**
    - PEG IFN-alfa-2a
  - Follow Up

- **N = 50**
  - Placebo
  - Follow Up

**Primary Endpoint at Week 48**
- ≥ 2 log decline in HDV RNA
- Normalization of ALT

**Secondary Endpoint at Week 48**
- Histologic improvement
- Improvement of fibrosis

All patients will be maintained on background HBV nucleoside therapy. Superiority over PEG IFN-alfa-2a not required.
**Phase 3 Global Study**

**COMBO PATHWAYS TO APPROVAL**

<table>
<thead>
<tr>
<th>Group</th>
<th>On-treatment 48 weeks</th>
<th>Post-treatment 24 weeks</th>
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</thead>
<tbody>
<tr>
<td><strong>ORAL</strong></td>
<td>Lonafarnib 50 mg BID Ritonavir 100 mg BID</td>
<td>Follow Up</td>
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<tr>
<td>N = 175</td>
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<tr>
<td><strong>COMBO</strong></td>
<td>Lonafarnib 50 mg BID Ritonavir 100 mg BID PEG IFN-alfa-2a</td>
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<tr>
<td><strong>Placebo</strong></td>
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<td>Follow Up</td>
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<td>N = 50</td>
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</tr>
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**Primary Endpoint at Week 48**

- ≥ 2 log decline in HDV RNA
- Normalization of ALT

**Secondary Endpoint at Week 48**

- Histologic improvement
- Improvement of fibrosis

N=400 allows for single pivotal study for registration

* biopsy
All patients will be maintained on background HBV nucleoside therapy. Superiority over PEG IFN-alfa-2a not required.
Study Mirrors HDV Global Footprint

COMPLETION OF ENROLLMENT EXPECTED IN 2021

HDV Phase 3 Sites

20 COUNTRIES

90+ ACTIVE SITES
Complementary Treatments for HDV

Lonafarnib + Ritonavir
1st in class small molecule, oral prenylation inhibitor
Phase 3

Peginterferon Lambda
1st in class type III interferon
Phase 3 Ready
Peginterferon Lambda (Lambda)

A WELL TOLERATED TYPE III INTERFERON

- Binds to a unique receptor vs type I IFN-α
  - Highly expressed on hepatocytes
  - Limited expression on hematopoietic and CNS cells
- Uses similar downstream signaling pathway to IFN-α
- 3,000+ patients in 19 clinical trials (HCV / HBV / HDV)
- Orphan Designation in U.S. and EU
- FDA Breakthrough Therapy Designation
- Composition of matter and method of use patents

Lambda Receptors
Highly Expressed in the Liver

| Lambda Receptors Not Widely Distributed Throughout Body | IFN-α Receptors Widely Distributed Throughout Body |
LIMT: Phase 2 Lambda Monotherapy Study

36% DURABLE VIROLOGIC RESPONSE (DVR) WITH LAMBDA

Mean Decline
Log HDV RNA IU/mL

Week

Lambda 180 mcg QW (N=14)

DVR = below the limit of quantification (BLQ) at 24 weeks post-treatment
Robogene® 2.0 HDV RNA PCR assay, LOQ = 14 IU/mL; LOD = 6 IU/mL
Etzion et al, EASL 2019; dose reductions allowed
Lambda is Phase 3 Ready for HDV

CONCURRENCE WITH FDA & EMA ON SINGLE PIVOTAL STUDY

- **Arm 1**
  - N=100
  - **Run-in**
  - 12 weeks
  - **Randomization**
  - 48 weeks
  - Lambda 180 mcg QW
  - Follow-up

- **Arm 2**
  - N=50
  - No TRx
  - 48 wk
  - Lambda 180 mcg QW
  - Follow-up

- HBV Nuc

- 12 weeks
- 48 weeks
- 24 weeks
Lambda is Phase 3 Ready for HDV

CONCURRENCE WITH FDA & EMA ON SINGLE PIVOTAL STUDY

**Primary Endpoint**
DVR at 24 Weeks Post-TRx versus Placebo at 12 Weeks Post-No TRx

DVR = below the limit of quantification (BLQ) at 24 weeks post-treatment
LIFT: Phase 2 Lambda – Lonafarnib Combo Study

A WELL TOLERATED INTERFERON FOR COMBINATION

**Primary Endpoint:**
> 2 Log HDV RNA reduction at EOT

**Secondary Endpoint:**
Histological improvement (biopsy confirmed)

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N=26

On-treatment

24 Weeks

*COMBO*

- Lambda 180 mcg QW
- Lonafarnib 50 mg BID
- Ritonavir 100 mg BID

Post-treatment

24 Weeks

Follow Up

- Interim End of Treatment Data AASLD 2019
- End of Treatment Data Planned at EASL 2020
- End of Study Data Planned at AASLD 2020
LIFT Study: >50% HDV RNA BLQ at Week 24

INTERIM END OF TREATMENT DATA (N=19/26)

Week 24 HDV RNA          % of Patients
> 2 Log Decline         95%
BLQ                     53%
Undetectable           37%

Weeks
0 4 8 12 16 20 24 28 32 36 40 44 48
n=1  n=8  n=10

Median Change in HDV RNA (Log)

Week 24 End of Treatment
End of Study data 2020

BLQ = below the limit of quantitation
Convenience and Optionality for HDV Patients

- Potential HDV cure and maintenance therapies
- Foundational therapies for future combinations
Lambda for COVID-19

Peginterferon Lambda

1st in class
type III interferon
Lambda for Mild COVID-19

THERAPEUTIC WINDOWS OF INTERVENTION

Severity

Early Infection

Treatment of Mild Illness

ANTIVIRAL RESPONSE

Progressive Infection and Hyperinflammation

Treatment of Severe Disease

INFLAMMATORY RESPONSE

Respiratory Failure

Severity

Disease Course (Time)

Mild Symptoms
Fever (≤ 38.5 °C)
Cough, Running Nose, Headache

Moderate to Severe Symptoms
Pneumonia
Shortness of Breath
Oxygen Saturation Drop
Abnormal Chest Imaging

Severe Symptoms
ARDS
Shock
Cardiac Dysfunction

Based on Andreakos et al 2020, EMBO Molecular Medicine
Lambda for COVID-19: Investigator Sponsored Studies

MULTIPLE OPPORTUNITIES TO PROVE CONCEPT

Eiger Involved in Protocol Development, Regulatory Interaction, and Lambda Supply

Multiple Institutions / Protocols Processing in Parallel:

- Stanford University (Upinder Singh, MD – Palo Alto)
- Toronto General Hospital (Jordan Feld, MD – Toronto)
- Mass General Hospital (Raymond Chung, MD – Boston)
- Mount Sinai (Scott Friedman, MD – NYC)
- Soroka University (Ohad Etzion, MD – Israel)
- Johns Hopkins University (Mark Sulkowski, MD – Baltimore)
for Progeria and Progeroid Laminopathies

NDA and MAA Filed

FDA Approval Expected in 2020
Progeria: Ultra-Rare, Fatal, Premature Aging Pediatric Disease

HUTCHINSON-GILFORD PROGERIA SYNDROME

- Point mutation in the Lamin A gene
  - Results in a farnesylated aberrant protein, Progerin
  - Disruption of scaffold structure of the nuclear membrane
- Accelerated atherosclerosis with cardiovascular decline
- Average lifespan = 14.5 years
- Prevalence of 1 in 20 million (~400 worldwide)
- No FDA approved Rx
- 90+ children and young adults treated with Zokinvy
Zokinvy Improved Survival in Progeria

77% REDUCTION IN RISK OF MORTALITY COMPARED TO NO TREATMENT

Survival Probability

Treated (N=63)

Untreated (N=63)

Hazard Ratio = 0.23, p = 0.04

Time Since Start of Follow-up (years)

Gordon, L et al, JAMA, 2018, 319(16): 1687

Average follow-up period of 2.2 years
Managed Access Program (MAP)

ENSURING ACCESS TO ZOKINVY

MAP spans > 40 countries

Preparing For Commercial Launch

Working with the Progeria Community

Progeria Research Foundation
FOR THE CHILDREN • FOR THE CURE
W/W Prevalence ~ 400 Children with Progeria

PLANNING FOR APPROVAL AND COMMERCIAL LAUNCH IN U.S.

Patients Identified in U.S.
- Approval expected in Q4 2020
- Planning for commercial launch

Patients Identified in EU

172 Identified Children with Progeria & Progeroid Laminopathies*

*Progeria Research Foundation
Lonafarnib for Progeria and HDV

**DISTINCT DISEASES, DISTINCT TREATMENT REGIMENS, DISTINCT COMMERCIAL STRATEGIES**

**PROGERIA**
- **Zokinvy**
  - Ilnafarnib capsules 50 mg/75 mg
  - Lonafarnib (Weight-based) Monotherapy

**HDV**
- Lonafarnib / Ritonavir (Combo Dose Pak)
  - ± Peginterferon
Avexitide for PBH and CHI

**POST-BARIATRIC HYPOGLYCEMIA (PBH)**

- Complication of bariatric surgery
- Dangerously low blood sugar after meals
- ~30%-40% of Roux-en-Y Gastric Bypass
- ~10%-20% of Vertical Sleeve Gastrectomy
- FDA Breakthrough Therapy Designation

**CONGENITAL HYPERINSULINISM (CHI)**

- Ultra-rare pediatric metabolic disorder
- Most frequent cause of persistent hypoglycemia in neonates and children
- Occurs in 1:25,000 to 1:50,000 live births
- Near-total pancreatectomy is indicated
- FDA Rare Pediatric Disease Designation

PBH results in **SEVERE HYPOGLYCEMIA**: altered mental status, loss of consciousness, seizures, coma

CHI results in **PERMANENT BRAIN DAMAGE** with neurodevelopmental deficits in up to 50% of patients
## Late Stage Pipeline

<table>
<thead>
<tr>
<th>TARGETED INDICATION</th>
<th>DRUG</th>
<th>ORPHAN US / EU</th>
<th>BREAKTHROUGH THERAPY</th>
<th>RARE PEDIATRIC DISEASE*</th>
<th>STATUS</th>
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</thead>
<tbody>
<tr>
<td><strong>Hepatitis Delta Virus</strong></td>
<td>Lonafarnib + Ritonavir</td>
<td>✔</td>
<td>✔</td>
<td>N/A</td>
<td>Phase 3 Enrolling</td>
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<tr>
<td></td>
<td>Peginterferon Lambda</td>
<td>✔</td>
<td>✔</td>
<td>N/A</td>
<td>Phase 3 Ready</td>
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<tr>
<td><strong>Progeria and Progeroid Laminopathies</strong></td>
<td><strong>Zokinvy</strong> (Lonafarnib)™</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>NDA / MAA Filed; FDA Approval Expected in 2020</td>
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<tr>
<td><strong>Post-Bariatric Hypoglycemia</strong></td>
<td>Avexitide</td>
<td>✔</td>
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<td><strong>Congenital Hyperinsulinism</strong></td>
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<td></td>
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* PRV Eligible Upon Approval
## Experienced Management Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Companies</th>
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<tbody>
<tr>
<td><strong>DAVID CORY, RPH, MBA</strong></td>
<td>Business Founder President Chief Executive Officer</td>
<td>gsk, Intermune, Prestwick Pharmaceuticals, Cotherix</td>
</tr>
<tr>
<td><strong>SRI RYALI, MBA</strong></td>
<td>Chief Financial Officer</td>
<td>aimune, Jazz Pharmaceuticals, Onyx, Amgen</td>
</tr>
<tr>
<td><strong>STEPHANA PATTON, PHD, JD</strong></td>
<td>General Counsel Corporate Secretary Chief Compliance Officer</td>
<td>Salix, Biodelivery, Biotime</td>
</tr>
<tr>
<td><strong>ELDON MAYER, MBA</strong></td>
<td>Executive Vice President Chief Commercial Officer</td>
<td>Rigel, Questcor, Schering-Plough</td>
</tr>
<tr>
<td><strong>JIM SHAFFER, MBA</strong></td>
<td>Chief Business Officer</td>
<td>gsk, Intermune, Halozyme, New River Pharmaceuticals, Merck</td>
</tr>
<tr>
<td><strong>INGRID CHOONG, PHD</strong></td>
<td>Senior Vice President Clinical Development</td>
<td>Sunesis, Berkeley, Stanford Medicine</td>
</tr>
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</table>
Leader in HDV
Late stage pipeline with 1st in class therapies
Strong clinical data
Large commercial market (HDV)
Progeria approval expected with PRV
$91M cash & investments as of 6/30/20