An Orphan Disease Company by Design

Key Opinion Leader
Analyst Day
New York Palace Hotel
May 18, 2016
This presentation and the oral commentary contain “forward-looking” statements that involve substantial risks and uncertainties. All statements other than statements of historical facts, including statements regarding our future financial condition, timing for and outcomes of clinical results, business strategy and plans and objectives for future operations, are forward looking statements. These forward-looking statements include terminology such as “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “contemplate,” “intend,” “target,” “project,” “should,” “plan,” “expect,” “predict,” “could,” “potentially” or the negative of these terms Forward looking statements are our current statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned clinical development, the timing of and our ability to initiate or enroll clinical trials, and our ability to make regulatory filings and obtain and maintain regulatory approvals for Sarasar, Bestatin, PEG IFN Lambda and our other product candidates, our intellectual property position, the potential safety, efficacy, reimbursement, convenience clinical and pharmaco-economic benefits of our product candidates, commercial opportunities, including potential market sizes and segments, our ability to commercialize, expectations regarding clinical trial data and FDA outcomes, our results of operations, cash needs, spending of the proceeds from this offering, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other 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. Forward-looking statements represent our beliefs and assumptions only as of the date of this presentation. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future.

© 2016 Eiger Biopharmaceuticals, Inc., all rights reserved.
Sarasar is a registered trademark of Merck Sharp & Dohme Corp. Bestatin is a trademark of Nippon Kayaku Co., Ltd. All other trademarks belong to their respective owners.
Agenda

8:00 am  Welcome, Introductions, Agenda  David Cory  Eiger

8:05 am  Overview of HDV  Jeffrey Glenn, MD, PhD  Stanford University

8:20 am  LOWR HDV – 2 Interim Data  Cihan Yurdaydin, MD  Ankara University

8:40 am  Long-term Outcomes with IFN Alfa  Heiner Wedemeyer, MD  Hannover Medical School

9:00 am  PEG IFN Lambda  Eduardo Martins, MD, DPhil  Eiger

9:15 am  Panel Discussion and Q&A  All

9:30 am  Close
Eiger BioPharmaceuticals, Inc.
An Orphan Disease Company by Design

• Founded in 2008

• Focused on novel targets in orphan diseases

• 5 clinical programs in Phase 2

• Experienced pharma team across functional areas
Business Strategy to Maximize Efficiency
Clinical Development Engine in Place

• Identify novel biology in targeted orphan diseases
  — Scientific and academic collaborations at Stanford University

• License well-characterized assets against novel targets
  — Preclinical and clinical experience already generated

• Translate science into the clinic rapidly
  — Cost efficient and time efficient clinical data in target disease

• Retain global commercial rights when possible
  — Develop markets and prepare for commercialization
# Development Pipeline

## Clinical Data Engine

<table>
<thead>
<tr>
<th>Product</th>
<th>Indication</th>
<th>Phase II</th>
<th>Approved Treatments</th>
<th>Phase 2 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sarasar® (lonafarnib)</strong></td>
<td>Hepatitis Delta</td>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td><strong>PEG IFN Lambda</strong></td>
<td>Hepatitis Delta</td>
<td></td>
<td></td>
<td>2017</td>
</tr>
<tr>
<td><strong>Exendin (9-39)</strong></td>
<td>Hypoglycemia</td>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td><strong>Bestatin™ (ubenimex)</strong></td>
<td>Pulmonary Arterial Hypertension</td>
<td>✓</td>
<td></td>
<td>2017</td>
</tr>
<tr>
<td><strong>Bestatin™ (ubenimex)</strong></td>
<td>Lymphedema</td>
<td></td>
<td></td>
<td>2017</td>
</tr>
</tbody>
</table>
## Indication

<table>
<thead>
<tr>
<th>Indication</th>
<th>Faculty / Inventors / Advisors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hepatitis Delta</strong></td>
<td>Jeffrey Glenn, MD, PhD</td>
</tr>
<tr>
<td><strong>Hypoglycemia</strong></td>
<td>Tracey McLaughlin, MD, MPH</td>
</tr>
<tr>
<td><strong>Pulmonary Arterial Hypertension</strong></td>
<td>Mark Nicolls, MD</td>
</tr>
<tr>
<td><strong>Lymphedema</strong></td>
<td>Stanley Rockson, MD</td>
</tr>
</tbody>
</table>
Overview of Hepatitis Delta

Jeffrey S. Glenn, MD, PhD
Associate Professor of Medicine, and
Microbiology & Immunology
Division of Gastroenterology and Hepatology
Director, Center for Hepatitis and Liver Tissue Engineering
Stanford University School of Medicine
Stanford, California
Hepatitis Delta Virus
The Most Severe Form of Viral Hepatitis

• **HDV is the most severe form of viral hepatitis**
  - More rapid progression to liver cirrhosis and liver cancer
  - 5-7x more likely to develop cirrhosis and HCC vs HBV

• **HDV is always associated with HBV Infection**
  - HDV steals HBsAg to complete its envelope

• **Final step in replication involves prenylation**
  - HDV hijacks prenylation, a host process

• **No FDA approved Rx for HDV**
  - PEG IFN α demonstrates modest benefit

• **HDV worldwide prevalence is 15 - 20 million**
  - HDV Orphan Designation granted in US, EU
Complications of Hepatitis D
At the time of diagnosis, >50% of HDV patients are cirrhotic

Risk of hepatocellular carcinoma, decompensation, mortality increased...

HDV Worldwide Prevalence: 15 - 20 Million
6% of HBV Population (Range 0 - >60%)

Anti-HD (HBsAg+)

0-5%  6-20%  21-60%  >60%
Migration and Viral Hepatitis
Globalization of Disease

Foreign-born individuals comprise majority of growing HDV positive population in North America and Western Europe…

Germany:
- Wedemeyer et al., Hepatology 2007
- Heidrich et al., J Viral Hepatitis 2009

France:
- Le Gal et al., Hepatology 2007

UK:

Italy:
- Stroffolini et al., J Med Virol 2009
- Piccolo et al., Eur J Publ Health 2010
Migration into Western Europe
Known Claims for Asylum in 2015 > 1 million

Asylum claims in Europe, 2015

Total EU claims*
1,321,560

* Map also shows claims for non-EU members Norway and Switzerland

Source: Eurostat
Hepatitis Delta Virus
Requires HBsAg from HBV for Viral Assembly / Packaging

HDV
- HDV genome
- small HDAg
- large HDAg
- prenyl group
- ss circular RNA
- HDV small / large antigen
- HBV surface antigen

HBV
- HBV genome
- HBV core antigen
- HBsAg
- ds DNA
- HBV surface antigen
The HDV Life Cycle

Uncoating of Virus
- HDV genome
- small delta antigen

Transport to Nucleus
- HDV genome

Replication
- large HDAg

Assembly
- large HDAg
- prenylated LHDAg

Prenylation
- HDV genome
- small HDAg
- large HDAg
- prenylated LHDAg
- prenyl moiety
- HBsAg

Release of Progeny
- HBV surface antigen
Prenylation: A Host Process
HDV (Large Delta Antigen) is Prenylated in Final Step of Viral Assembly

• Prenylation is a site specific lipid modification of proteins
  – Attachment of a farnesyl or geranylgeranyl prenyl lipid to the target protein
  – Required for membrane association of proteins

![Chemical structures of S-Farnesyl and S-Geranylgeranyl](attachment:chemical_structures.png)

• Ras proteins discovered in 1980’s to undergo prenylation
  – Mutated Ras proteins identified in 30% of solid tumors
  – Farnesyl transferase inhibitors (FTIs) developed by pharma for cancer
Proof of Concept

Virus Like Particle (VLP)

Infectious Virus

In Vivo Animal Model
Sarasar® (Ionafarnib) for HDV
Well-Characterized Clinical Stage Lead Compound

- **Small molecule, oral, prenylation inhibitor**

- **Well-characterized through Phase 3**
  - >2,000 patients dosed in oncology program by Merck (Schering)
  - Dose limiting toxicity is GI (class effect)

- **Prenylation is a host target; confers high barrier to resistance**

- **Over 100 HDV patients dosed across international sites**
  - Published in The Lancet Infectious Diseases

- **Orphan Designation, Fast Track Granted**

Exploring Optimal Dosing of Lonafarnib with Ritonavir +/- Pegylated Interferon Alfa for the Treatment of Chronic Delta Hepatitis

— Interim Results from the LOWR HDV-2 Study

Cihan Yurdaydin, MD

Chief of Gastroenterology
University of Ankara Medical School

Chief, Hepatology Institute
University of Ankara
Ankara, Turkey
Week 4 Reduction in HDV RNA with Lonafarnib

Lonafarnib
100 mg BID
Placebo
0.5
0
-0.5
-1
-1.5
-2
-2.5

Mean change in Log HDV RNA

Mean Δ
- 0.2 Log
Mean Δ
- 0.74 Log
Mean Δ
- 1.6 Log

N = 4
N = 6
N = 6

National Institutes of Health
NIH POC (AASLD 2014)
### Week 4 Reduction in HDV RNA with Lonafarnib

**National Institutes of Health**  
**NIH POC (AASLD 2014)**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean Δ</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Lonafarnib 100 mg BID</td>
<td>-0.2 Log</td>
<td>6</td>
</tr>
<tr>
<td>Lonafarnib 200 mg BID</td>
<td>-0.74 Log</td>
<td>6</td>
</tr>
</tbody>
</table>

**Ankara University**  
**LOWR HDV -1 (EASL 2015)**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean Δ</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lonafarnib 100 mg BID</td>
<td>-1.6 Log</td>
<td>3</td>
</tr>
<tr>
<td>Lonafarnib 100 mg TID + Ritonavir 100 mg QD</td>
<td>-1.8 Log</td>
<td>3</td>
</tr>
<tr>
<td>Lonafarnib 200 mg BID</td>
<td>-2.0 Log</td>
<td>3</td>
</tr>
<tr>
<td>Lonafarnib 300 mg BID</td>
<td>-2.4 Log</td>
<td>3</td>
</tr>
<tr>
<td>Lonafarnib 100 mg BID + PEG IFN α 180 mcg QW</td>
<td>-1.8 Log</td>
<td>3</td>
</tr>
</tbody>
</table>
Faster Decline with Lonafarnib Combinations

Mean Change in Log HDV RNA

Week

LOWR HDV – 1

LNF 100 mg BID + PEG IFN α 180 mcg QW (N=3)

LNF 100 mg BID + RTV 100 mg QD (N=3)
Faster Decline with Lonafarnib Combinations

Larger Declines in HDV RNA at Week 8 versus PEG IFN α at Week 48

Mean Change in Log HDV RNA

-4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0

Week

0 4 8 12 16 20 24 28 32 36 40 44 48

PEG IFN α 180 mcg QW ± tenofovir QD (N=91)

LNF 100 mg BID + PEG IFN α 180 mcg QW (N=3)

LNF 100 mg BID + RTV 100 mg QD (N=3)

HIDIT – 2

Hepatitis Delta International Network
Purpose

- To identify optimal combination regimens of LNF and RTV ± PEG IFN α which demonstrate efficacy and tolerability for longer term dosing to enable HDV RNA clearance.

Patients and Methods

- Treatment duration 12-24 weeks
- 72 hour PK and PD evaluation on day 1 and day 28
- Testing frequency: days 1, 2, 3, 7, 14, 28 and then Q4W
  - Biochemical parameters
  - HDV RNA (by in-house quantitative real-time PCR)
LOWR HDV – 2: “Dose Finding” Study
37 Patients Dosed To Date

- N=3: Lonafarnib 100 mg BID + Ritonavir 100 mg QD
- N=2: Lonafarnib 100 mg BID + Ritonavir 50 mg BID
- N=5: Lonafarnib 100 mg QD + Ritonavir 100 mg QD
- N=3: Lonafarnib 150 mg QD + Ritonavir 100 mg QD
- N=3: Lonafarnib 75 mg BID + Ritonavir 100 mg BID
- N=5: Lonafarnib 50 mg BID + Ritonavir 100 mg BID
- N=6: Lonafarnib 25 mg BID + Ritonavir 100 mg BID
- N=3: Lonafarnib 50 mg BID + Ritonavir 100 mg BID + PEG IFN α 180 mcg QW
- N=7: Lonafarnib 25 mg BID + Ritonavir 100 mg BID + PEG IFN α 180 mcg QW

12-24 Weeks Treatment
LOWR HDV – 2: “Dose Finding” Study
37 Patients Dosed To Date

N=3
Lonafarnib 100 mg BID + Ritonavir 100 mg QD

N=2
Lonafarnib 100 mg BID + Ritonavir 50 mg BID

N=5
Lonafarnib 100 mg QD + Ritonavir 100 mg QD

N=3
Lonafarnib 150 mg QD + Ritonavir 100 mg QD

N=3
Lonafarnib 75 mg BID + Ritonavir 100 mg BID

N=5
Lonafarnib 50 mg BID + Ritonavir 100 mg BID

N=6
Lonafarnib 25 mg BID + Ritonavir 100 mg BID

N=3
Lonafarnib 50 mg BID + Ritonavir 100 mg BID + PEG IFN α 180 mcg QW

N=7
Lonafarnib 25 mg BID + Ritonavir 100 mg BID + PEG IFN α 180 mcg QW
LOWR HDV – 2: Week 4 Reduction in HDV RNA

Comparable Viral Load Decline: High Dose vs Lower Dose
LOWR HDV – 2: Week 8 Reduction in HDV RNA

Comparable Viral Load Decline: High Dose vs Lower Dose
**Improved GI Tolerability with Lower Doses LNF**

<table>
<thead>
<tr>
<th></th>
<th>Higher Doses</th>
<th>Lower Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 4*</td>
<td>N = 5**</td>
</tr>
<tr>
<td><strong>LNF 100mg bid</strong> + <strong>RTV 100mg qd</strong></td>
<td>LNF 100mg bid + <strong>RTV 50mg bid</strong></td>
<td>LNF 100mg bid + <strong>RTV 100mg qd</strong></td>
</tr>
</tbody>
</table>

| **Grade** | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| **Nausea** | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| **Diarrhea** | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Fatigue** | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 4 | 3 | 2 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Anorexia** | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Wt Loss** | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Vomiting** | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

- Lower doses demonstrate better GI tolerability than higher doses
- Mostly grade 1 gastrointestinal AEs observed with lower doses

Numbers indicate # of patients experiencing an adverse event
Lower Doses Combines Efficacy with Tolerability
May Enable Longer Treatment

Mean Change in Log HDV RNA

LOWR HDV – 2

EOT
(LOWR HDV - 2)

Week

LNF 50 mg BID + RTV 100 mg BID (N=5)
LNF 50 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW (N=3)
LNF 25 mg BID + RTV 100 mg BID (N=4)
LNF 25 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW (N=2)
Lower Dose LNF Enables Longer Treatment

Shows Rapid Decline vs PEG IFN α Alone

Mean Change in Log HDV RNA

-3.5
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0

PEG IFN α 180 mcg QW + tenofovir (N=91)

LNF 50 mg BID + RTV 100 mg BID (N=5)

LNF 50 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW (N=3)

LNF 25 mg BID + RTV 100 mg BID (N=4)

LNF 25 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW (N=2)

PEG IFN α 180 mcg QW + tenofovir (N=91)

HIDIT – 2

LOWR HDV – 2

EOT (LOWR HDV - 2)

EOT (HIDIT - 2)
Lower Dose Lonafarnib
LNF 50 mg BID + RTV 100 mg BID

Log HDV RNA IU / mL

Patient 1: Dose reduced
Patient 4: HDV RNA Negative

Week

LLOQ
Lower Dose Lonafarnib
LNF 50 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW

Patient 8: HDV RNA Negative
Lowest Dose Lonafarnib
LNF 25 mg BID + RTV 100 mg BID + PEG IFN α 180 mcg QW

Log HDV-RNA IU/mL

Week

Patient 15: HDV RNA Negative

Patient 15: HDV RNA Negative
Lowest Dose Lonafarnib
LNF 25 mg BID + RTV 100 mg BID

Lowest Dose: Mean 1.5 Log Decline in 8 weeks
ALT Normalization
In 65% of Patients at Week 12*

* 23 of 37 patients have Week 12 data
• Activity demonstrated in all patients with all doses of LNF

• Lower doses identified that improve GI tolerability

• Longer dosing durations now possible with tolerability

• HDV RNA negativity achieved with lower LNF doses

• ALT normalization with reduction in HDV RNA

• Addition of PEG IFN alfa offers promising treatment options

• HDV RNA negativity rate at EOT will guide next studies
Long-term Clinical Benefit with Interferon Alfa in HDV

Heiner Wedemeyer, MD
Associate Professor
Department of Gastroenterology, Hepatology, and Endocrinology
Hannover Medical School
Hannover, Germany
HIDIT - 1
Evaluation of 48 Week Treatment with PEG IFN Alfa

Purpose
• To evaluate the safety and efficacy of 48 weeks treatment with PEG IFN alfa + adefovir, PEG IFN alfa alone, and adefovir alone
  – Assess clearance of HDV RNA
  – Assess normalization of alanine aminotransferase levels
  – Assess decline in levels of hepatitis B surface antigen

Patients
• 90 anti-HDV positive patients

Treatment and Methods
• IFN alfa + adefovir (N=31)
• IFN alfa alone (N=29)
• Adefovir alone (N=30)
• Follow-up = 24 weeks; Long-term follow-up = 5 years
HIDIT – 1: PEG IFN Alfa
31% HDV RNA Negativity after Week 24 Follow-up

Post-treatment Week 24
PEG IFN α

% Patients

HDV RNA negative
9 / 29
31%

Normalized ALT
11 / 29
45%

HIDIT – 1: PEG IFN Alfa
Long-term Clinical Benefit Despite HDV RNA Rebound

Post-treatment Week 24
PEG IFN α

% Patients

HDV RNA negative
Normalized ALT

31% 9 / 29
45% 11 / 29

“Late HDV RNA relapses during long-term follow-up study.”

“Not a single patient with post-treatment week 24 response experienced a clinical event.”

~ Heidrich et al

HIDIT-1: PEG IFN Alfa
31% Achieved HDV RNA Decline > 2 Log

Week 48
End of Treatment

HDV-RNA
>2 log decline
31%

Week 72
End of Follow Up

HDV-RNA
>2 log decline
31%
Reducing HDV RNA Improves Survival

Interferon Alfa for 48 weeks with 15 year follow up

Change in HDV RNA

Survival

Farci et al, Gastroenterology 2004: Long-Term Benefit of Interferon α Therapy of Chronic HDV: Regression of Advanced Hepatic Fibrosis
Purpose

• To evaluate the long term clinical outcomes of IFN alfa treatment in HDV
  – Assess number of decompensations
  – Assess number of liver transplants
  – Assess number of hepatocellular carcinomas
  – Assess number of deaths

Patients

• 136 anti-HDV positive patients - Hannover Medical School (1987-2013)

Treatment and Methods

• No therapy (N=39)
• IFN alfa (N=52)
• Nucleosides (N=45)
• Median follow-up: 5.2 years (range 0.6 -18.8 years)
Fewer Clinical Events with IFN Alfa

Decompensation, HCC, Transplant, Death

Cumulative Event Free Survival

- **IFN α**
  - $p < 0.01$ vs NUCs
  - $p = 0.05$ vs no therapy

- **NUCs**
  - $p = 0.02$ vs NUCs

- **No therapy**

Years
Decompensation and Transplant
Prevention with IFN Alfa Treatment

Decompensation

Cumulative Compensation Free Survival

Liver Transplant

Cumulative LTx Free Survival

HCC

Cumulative HCC Free Survival

Death

Cumulative Survival

No therapy & NUCs

IFN α

p < 0.01

p = 0.5

p = 0.1

p = 0.01
## Less Advanced Liver Disease with IFN Alfa

**Less Cirrhosis and Lower MELD Score**

<table>
<thead>
<tr>
<th></th>
<th>No therapy</th>
<th>NUCs</th>
<th>IFN-α</th>
<th>ANOVA (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 39)</td>
<td>(N = 45)</td>
<td>(N = 52)</td>
<td></td>
</tr>
<tr>
<td><strong>Bilirubin (µmol/L)</strong></td>
<td>22.7 (12.9 – 32.5)</td>
<td>23.1 (14.1 – 32.0)</td>
<td>11.1 (9.5 – 12.8)</td>
<td>= 0.03</td>
</tr>
<tr>
<td><strong>Albumin (g/L)</strong></td>
<td>41.7 (39.2 – 44.0)</td>
<td>36.2 (33.9 – 38.5)</td>
<td>40.4 (38.7 – 42.0)</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td><strong>Platelets (1000/µL)</strong></td>
<td>128.8 (102.3 - 155.3)</td>
<td>107.7 (88.4 – 127.0)</td>
<td>159.8 (141.4 – 178.3)</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td><strong>INR</strong></td>
<td>1.3 (1.2 – 1.4)</td>
<td>1.3 (1.2 – 1.3)</td>
<td>1.1 (1.1 – 1.1)</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td><strong>AST/ALT-Ratio</strong></td>
<td>1.2 (0.8 – 1.7)</td>
<td>1.2 (1.0 – 1.4)</td>
<td>0.8 (0.6 – 0.9)</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td><strong>MELD</strong></td>
<td>10.2 (8.7 – 11.7)</td>
<td>9.9 (8.8 – 11.1)</td>
<td>7.7 (7.3 – 8.1)</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td><strong>Cirrhosis</strong></td>
<td>17 (44%)</td>
<td>30 (67%)</td>
<td>15 (29%)</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

* MELD Score: 10-19 = 6% mortality; <0 = 1.9% mortality
**Improved Outcome with IFN Alfa Treatment**

*After Excluding Patients with Contraindications for IFN Alfa*

---

**All patients**

- **Cumulative Event-Free Survival**
  - **No therapy & NUCs**
  - **IFN α**

**Patients with platelets >90000/µL**

- **Cumulative Event-Free Survival**
  - **No therapy & NUCs**
  - **IFN α**

*p < 0.01*

*p = 0.04*
IFN Alfa-Based Therapies
Summary and Next Steps

- IFN alfa-treated patients develop clinical endpoints less frequently.
- IFN alfa prevented decompensation and transplantation.
- HDV RNA and HBsAg loss had an improved clinical long-term outcome.
- Interferon-based therapy should be recommended for treatment of HDV.
  - Despite side effects of IFN alfa.
- Interferon with improved tolerability will improve patient compliance.
- Alternative treatment options are urgently needed for:
  - IFN alfa-non-responder patients.
  - Patients with contraindications for IFN alfa.
Eiger HDV Program Overview

Eduardo Martins, MD, DPhil
Sr. VP, Liver and Infectious Diseases
Eiger BioPharmaceuticals, Inc.
Sarasar® (Ionafarnib) Phase 2 HDV Program
102 HDV Infected Patients Dosed

• **Proof of Concept**
  – Monotherapy \( N = 14 \)  
    
• **LOWR HDV – 1**
  – Combinations +/- PEG IFN \( \alpha \) \( N = 15 \)  
    
• **LOWR HDV – 2**
  – Dose Finding +/- PEG IFN \( \alpha \) \( N = 37 \)  
    
• **LOWR HDV – 3**
  – Duration \( N = 21 \)  
    
• **LOWR HDV - 4**
  – Titration \( N = 15 \)  

LOWR HDV = \text{LOna}farnib \text{ W}ith Ritonavir in HDV
**Sarasar® (lonafarnib) in HDV**

*Phase 2 Results Expected in 2016 / 2017*

---

**Phase 2 LOWR HDV - 2**

- **Interim Data**
- **EOT Data**

- **2015**
  - N = 37

---

**Phase 2 LOWR HDV - 3**

- **EOT Data**
- **Post TRx Data**

- **2016**
  - N = 21

---

**Phase 2 LOWR HDV - 4**

- **EOT Data**
- **Post TRx Data**

- **2016**
  - N = 15

---

**2017**
Eiger BioPharmaceuticals Announces License of Worldwide Rights to Pegylated Interferon Lambda-1a from Bristol-Myers Squibb

Including Rights for All Indications and Associated Patents

PALO ALTO, CALIF, April 20, 2016 /PRNewswire/ -- Eiger BioPharmaceuticals, Inc. (NASDAQ: EIGR) announced today that it has licensed Pegylated Interferon Lambda-1a ("Lambda"), a novel, well-characterized, first in class Type III interferon to be studied as an investigational therapy for hepatitis delta virus (HDV) infection, from Bristol-Myers Squibb. Lambda has been administered in clinical trials involving over 3,000 subjects. It has not been approved for any indication. Eiger plans to evaluate Lambda as a potential monotherapy and combination treatment for chronic HDV infection, the most aggressive and deadly form of human viral hepatitis.
**PEG IFN Lambda**
*A targeted interferon for HDV*

- A novel, first in class Type III interferon
  - Native Lambda is generated by human immune system in viral infections

- Binds to a unique receptor versus Type I interferons
  - Highly expressed on hepatocytes
  - Limited expression on hematopoietic cells and CNS cells

- Uses similar downstream signaling pathway as Type I interferons

- Greater than 3,000 patients in 17 clinical trials (HCV / HBV)

- Antiviral activity with less of the typical IFN alfa related side effects

- Anti HDV activity demonstrated in humanized liver mouse model
Type I Interferons versus Type III Interferons
alfa, beta, omega versus lambda

Potential Impact of Lambda Receptor Distribution

IFN alfa receptors **widely** distributed throughout body.

Lambda receptors NOT **widely** distributed throughout body.

Potential for **MORE** IFN-associated abnormalities:

- ↑ Neutropenia
- ↑ Thrombocytopenia
- ↑ Flu-like Symptoms
- ↑ Musculoskeletal Symptoms

Potential for **LESS** IFN-associated abnormalities:

- ↓ Neutropenia
- ↓ Thrombocytopenia
- ↓ Flu-like Symptoms
- ↓ Musculoskeletal Symptoms
PEG IFN Lambda Suppresses HDV RNA
Strongly Enhanced Innate Immune Response of Human Hepatocytes

Experimental Design

HDV Viremia

ISG15 = 6.2 Fold
Rig-I = 1.9 Fold
STAT1 = 6.2 Fold
STAT2 = 11.2 Fold

Dandri et al, EASL 2013 Monothematic Conference, Poster
PEG IFN Lambda

Plans

• Replace PEG IFN alfa in next Eiger HDV studies

• Efficiently study potential use as:
  – An effective monotherapy in HDV
  – An effective combination therapy with Lonafarnib in HDV

• Identify potential for better tolerability versus PEG IFN alfa in HDV

• Offer a proprietary interferon with improved efficacy / tolerability

• Apply for Orphan Designation & Fast Track status

• Create an HDV franchise opportunity at Eiger
PEG IFN Lambda
Expected Timelines

• Drug Product on hand sufficient for Phase 2
  – Quantities expected to supply development through registration

• Monotherapy study in HDV to begin in 2H2016
  – Lambda alone dose ranging study

• Combination study in HDV to begin in 2H2016
  – Lonafarnib + Ritonavir + Lambda

• Efficient generation of Phase 2 POC data in 4Q2017
  – Multiple, international sites
Eiger HDV Program
Phase 2 Results Expected in 2016 / 2017 / 2018

Phase 2 LOWR HDV – 2
N = 37

Phase 2 LOWR HDV - 3
N = 21

Phase 2 LOWR HDV - 4
N = 15

Lambda Monotherapy
N = 20

Lambda Combination Therapy
N = 20
### Potential Registration Pathways
#### Building an HDV Franchise

<table>
<thead>
<tr>
<th>HDV Registration Options</th>
<th>Clinical Description</th>
<th>Treatment Option</th>
<th>Treatment Option</th>
<th>Treatment Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cure</strong></td>
<td>HDV RNA Negativity + ALT Normalization</td>
<td>Lonafarnib + Ritonavir</td>
<td>Lonafarnib + Ritonavir + Lambda</td>
<td>Lambda</td>
</tr>
<tr>
<td><strong>Chronic Treatment</strong></td>
<td>HDV RNA Reduction + ALT Normalization</td>
<td>Lonafarnib + Ritonavir</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An Orphan Disease Company by Design

Key Opinion Leader
Analyst Day
New York Palace Hotel
May 18, 2016