ENCORE-PH
Top-line Results

Striving to improve human health

December 5, 2018

NASDAQ **CNAT**

Conatus Pharmaceuticals

Forward-looking Statements

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success, plans and objectives of management for future operations, and future results of current and anticipated products are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important 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. These known risks and uncertainties are described in detail in our filings made with the Securities and Exchange Commission from time to time. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements.

All forward-looking statements are qualified in their entirety by this cautionary statement, which is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and we undertake no obligation to revise or update this presentation to reflect events or circumstances after the date hereof.

Emricasan – Positioned for Success in NASH and Beyond

Profile

First-in-class pan-caspase inhibitor ideally suited to treat liver disease

Orally administered

Actively transported into the liver

Not metabolized in the liver

Addresses all etiologies of cirrhosis

Efficacy

Potent mechanism with multiple disease intervention points

Confirmed activity across broad spectrum of chronic liver disease

Signal of anti-fibrotic treatment effect using a histology endpoint in HCV

Clinically meaningful reductions in relevant cirrhosis endpoints

Safety

Administered to ~700 subjects (~500 with liver disease) across 17 clinical trials

Well tolerated with over 150 patient-years of exposure

Serious adverse event and adverse event profiles similar in placebo and emricasan treated patients

Portal Hypertension Is an Important, Significant Problem

Severe portal hypertension (HVPG ≥12 mmHg) is the main driver of decompensation in cirrhosis including variceal bleeding, ascites, hepatic encephalopathy, and liver-related mortality*

It is manifested through a combination of intrahepatic and extrahepatic pathology

The emricasan mechanism of action has the potential to positively impact both

HVPG is an objective measure of portal hypertension*

Decreasing HVPG in patients with severe portal hypertension is predictive of clinical benefit

HVPG may be an appropriate surrogate endpoint for accelerated approval in severe portal hypertension

Emricasan has already demonstrated improvements in severe portal hypertension in patients with compensated cirrhosis

All 263 patients in ENCORE-PH presented with severe portal hypertension due to NASH at baseline

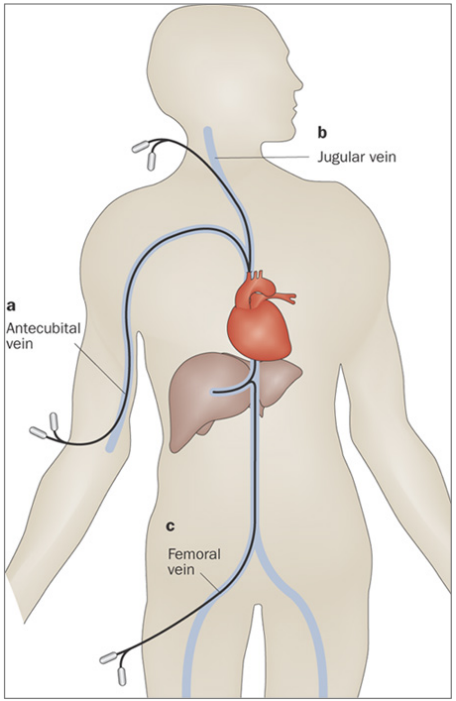
The primary endpoint for the study is the mean change in HVPG after 24 weeks of dosing

Positive results from ENCORE-PH further demonstrate emricasan's potential to benefit NASH cirrhosis patients

*Bosch J. *et al.* Nat. Rev. Gastroenterol. Hepatol. 6 (2009), 573–582.

Quantifying Portal Hypertension

Hepatic Venous Pressure Gradient (HVPG)



HVPG is the measurement of the difference in pressure inside a hepatic vein with a balloon catheter inflated vs. deflated. This measurement provides a good estimate of the elevation in pressure inside the portal vein, especially in patients with cirrhosis.

- HVPG >5 mmHg defines the condition of portal hypertension.
- HVPG ≥10 mmHg defines clinically significant portal hypertension.
- HVPG ≥12 mmHg defines severe portal hypertension with increased risk of blood vessel rupture.
- HVPG ≥16 mmHg predicts a higher risk of clinical events and death.*

HVPG is an objective measure of portal hypertension which is linked directly to clinical complications

Bosch J. *et al.* Nat. Rev. Gastroenterol. Hepatol. 6 (2009), 573–582. *Berzigotti, A. *et al*. J. Gastroenterol. 46 (2011) 687-695. Turco, L. *et al*. J Hepatol. 68 (2018) 949-958.

Phase 2b ENCORE-PH Trial

In NASH Cirrhosis Patients with Severe Portal Hypertension

EmricasaN, a Caspase inhibitOR, for Evaluation in Portal Hypertension

Design

~240 patients at ~70 sites across US and EU. Randomized 1:1:1:1 to receive placebo or emricasan at 5mg, 25mg, or 50mg BID

NASH cirrhosis and severe portal hypertension
(HVPG ≥ 12 mmHg)

Double-blind, placebo-controlled

Primary Endpoint

Change from baseline to Week 24 in mean HVPG in each dosing group compared with placebo

Strong basis for HVPG as a surrogate endpoint in patients with severe portal hypertension

Extension

24-week treatment/placebo continuation

Following for liver function and clinical outcomes

Top-line HVPG results reported 4Q18
Extension results expected mid-19

ENCORE-PH
Top-line Results

EmricasaN, a Caspase inhibitOR, for Evaluation

Conatus Pharmaceuticals

Phase 2b ENCORE-PH: Study Population Baseline Demographics

263 Patients with NASH Cirrhosis

	5 mg BID	25 mg BID	50 mg BID	Placebo
Randomized	65	65	66	67
BMI (kg/m^2)	35.3	34.4	35.6	35.9
Compensated	75.4%	75.4%	72.7%	82.1%
Decompensated	24.6%	24.6%	27.3%	17.9%
HVPG (mmHg)	16.88	17.25	16.91	16.81
MELD Score	9.17	9.06	9.24	8.40
Child Pugh Score	5.5	5.4	5.6	5.4
Type 2 Diabetes Mellitus	80.0%	80.0%	71.2%	83.6%
On NSBB	43.1%	40.0%	39.4%	40.3%
No/Small Varices	61.5%	63.0%	66.7%	79.1%
Medium/Large Varices	38.5%	37.0%	33.3%	20.9%

Phase 2b ENCORE-PH: Key Takeaways

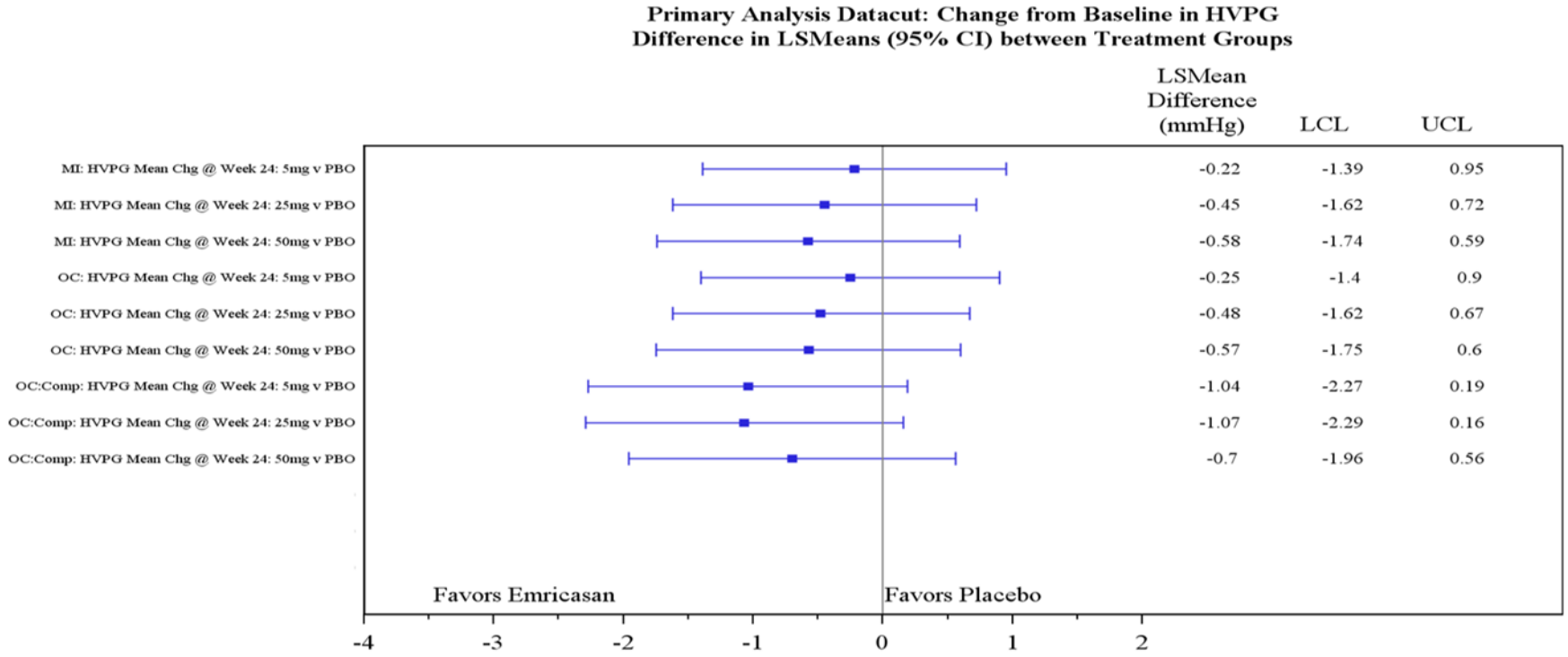
Efficacy

- Emricasan treatment achieved clinically important improvements from baseline and compared with placebo in mean HVPG at Week 24
  - Showed positive trends in both improvement from baseline and differences compared with placebo in mean HVPG in the full study population (patients with compensated or decompensated NASH cirrhosis) but did not meet the primary endpoint
  - Showed improvement compared with placebo in mean HVPG in post-hoc analyses in multiple subgroups of patients with compensated NASH cirrhosis
    - Change from baseline in HVPG in compensated ≥16 mmHg subgroup showed improvement (≥2 mmHg) in all emricasan dose groups vs. placebo
  - Showed responses predictive of clinical benefit (≥20% decrease in HVPG) in ≥16 mmHg HVPG subgroup
    - Showed trend toward clinical benefit in total compensated NASH cirrhosis population
  - Showed a general pattern of increasing improvement from baseline in mean HVPG in multiple subgroups of patients with compensated NASH cirrhosis.
    - Mean HVPG in all emricasan dose groups decreased in all compensated cohorts while mean HVPG in the placebo cohort increased
    - All three emricasan dose groups achieved a ≥1 mmHg mean HVPG improvement over baseline

Safety

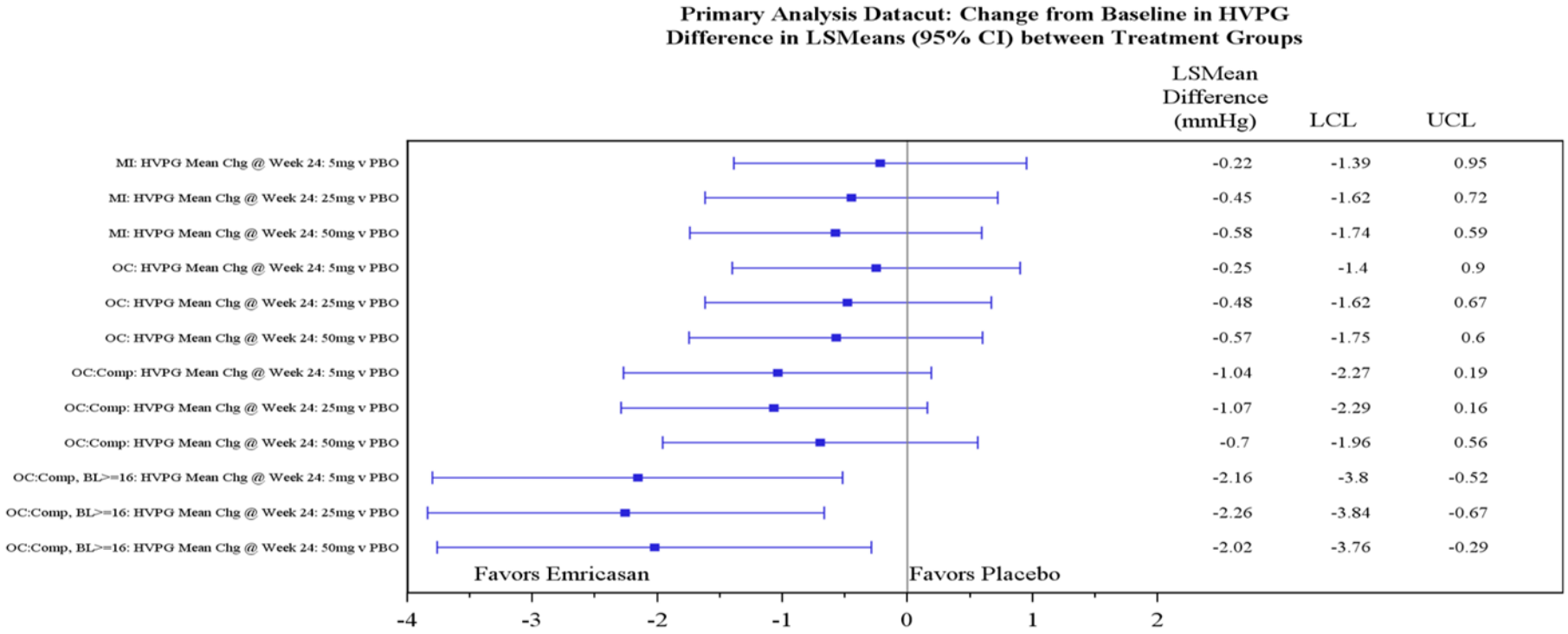
- Emricasan was generally well-tolerated
  - The overall safety profile was similar in the emricasan and placebo groups

Change from Baseline vs. Placebo in HVPG at Week 24 in Full Study Population Consistently Favors Emricasan vs. Placebo



MI=multiple imputation; ANOVA model adjusting for baseline compensation status, NSBB use, and baseline HVPG.
OC=Observed cases; ANOVA model adjusting for baseline HVPG.

Change from Baseline vs. Placebo in HVPG at Week 24 in Compensated ≥16 mmHg Subgroup Showed Meaningful Improvement with Emricasan



MI=multiple imputation; ANOVA model adjusting for baseline compensation status, NSBB use, and baseline HVPG.
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Consistent Differences in Mean HVPG vs. Placebo with Emricasan in Compensated Patient Subpopulations

Difference in Adjusted mean HVPG (p value)*

Compensated Patient Subpopulation			
Patient Baseline HVPG	**Emricasan 5 mg BID**	**Emricasan 25 mg BID**	**Emricasan 50 mg BID**
≥12mmHg	-1.0 (p=0.098)	-1.1 (p=0.087)	-0.7 (p=0.275)
≥13mmHg	-1.4 (p=0.047)	-1.4 (p=0.040)	-1.5 (p=0.037)
≥14mmHg	-1.5 (p=0.037)	-1.8 (p=0.015)	-1.6 (p=0.032)
≥15mmHg	-1.4 (p=0.074)	-1.6 (p=0.035)	-2.0 (p=0.017)
≥16mmHg	-2.2 (p=0.010)	-2.3 (p=0.006)	-2.0 (p=0.023)
≥17mmHg	-2.6 (p=0.009)	-2.8 (p=0.005)	-2.5 (p=0.015)
Overall Compensated and Decompensated Patient Population			
HVPG ≥12mmHg	-0.3 (p=0.666)	-0.5 (p=0.416)	-0.6 (p=0.337)

*Post-hoc analyses based on ANOVA model adjusted for baseline HVPG

Clinically Meaningful Benefit Observed in ≥16mmHg Subgroup with a Trend Predictive of Clinical Benefit in Total Compensated Population

Responder Analysis in Compensated NASH Cirrhosis Patients (p value)*

≥20% Responders (from Baseline) in Compensated Population Subgroups				
Baseline HVPG	Emricasan 5mg BID	Emricasan 25mg BID	Emricasan 50mg BID	Placebo BID
≥16 mmHg	22% (p=0.023) (7%, 39%) (n=6/27)	13% (p=0.110) (1%, 26%) (n=4/30)	20% (p=0.013) (6%, 42%) (n=5/25)	0% (n=0/26)
≥12 mmHg	15% (p=0.379) (-7%,19%) (n=7/46)	19% (p=0.162) (-4%, 23%) (n=9/47)	19% (p=0.176) (-4%, 24%) (n=8/42)	9% (n=5/53)

*Post-hoc chi-square test for assessing difference in response rates (95%CI of risk difference)

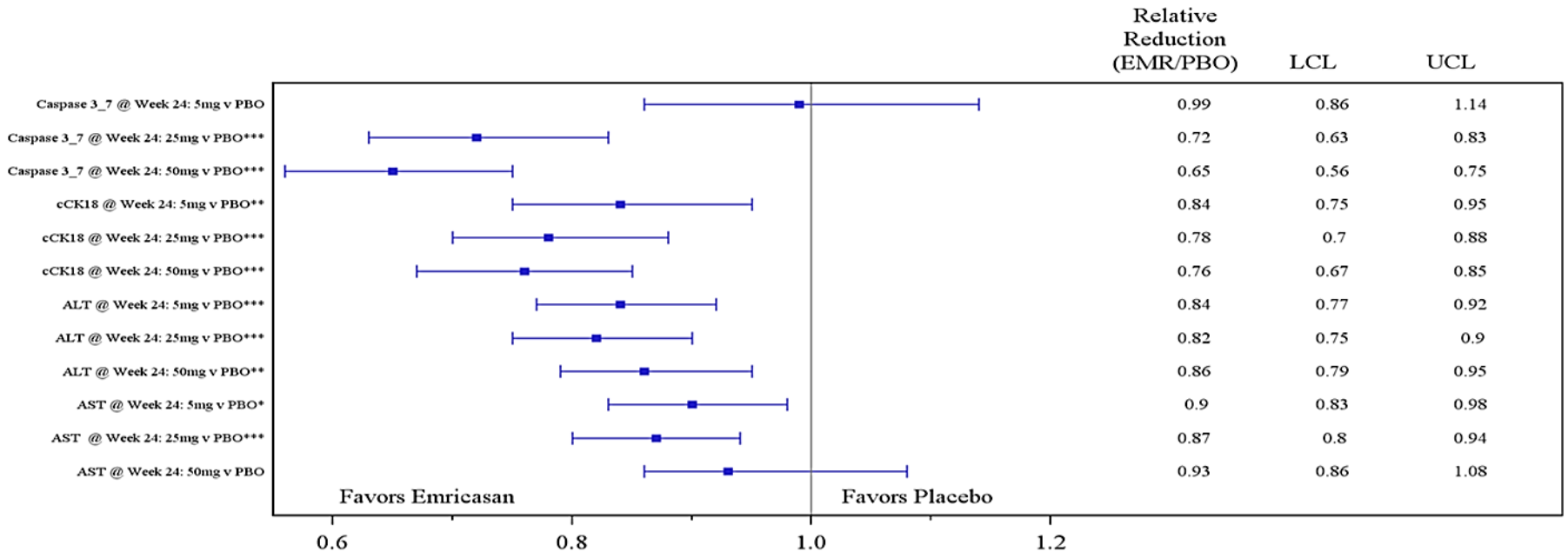
Clinically Important Reductions in Mean HVPG vs. Baseline with Emricasan with Consistent Decreases in Emricasan Groups vs. Consistent Increases with Placebo

Difference in Adjusted mean HVPG

Compensated Patient Subpopulations				
Baseline HVPG	**Emricasan 5 mg BID**	**Emricasan 25 mg BID**	**Emricasan 50 mg BID**	**Placebo BID**
≥12 mmHg	-0.8 (n=46)	-0.8 (n=47)	-0.4 (n=42)	+0.2 (n=53)
≥13 mmHg	-0.9 (n=39)	-0.9 (n=46)	-1.0 (n=37)	+0.5 (n=44)
≥14 mmHg	-1.0 (n=35)	-1.3 (n=38)	-1.1 (n=31)	+0.5 (n=39)
≥15 mmHg	-1.2 (n=30)	-1.3 (n=35)	-1.7 (n=25)	+0.3 (n=35)
≥16 mmHg	-1.6 (n=26)	-1.7 (n=30)	-1.5 (n=21)	+0.5 (n=26)
≥17 mmHg	-1.7 (n=23)	-1.9 (n=25)	-1.6 (n=19)	+0.9 (n=20)
Overall Compensated and Decompensated Patient Population				
≥12 mmHg	-0.5 (N=61)	-0.7 (N=62)	-0.8 (N=56)	-0.2 (N=64)

Consistent Improvement in Mechanism Related Biomarkers at Week 24

Primary Analysis Datacut: Relative Reduction in Biomarkers
Difference in LSMeans (95% CI) between Treatment Groups



OC=Observed cases; ANOVA model adjusting for baseline compensation, NSBB use, and baseline HVPG.
*<0.05; **<0.01; ***<0.001; dunnett's adjusted p-values

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KOL Perspectives

"… Post-hoc analyses from the ENCORE-PH trial showing that, compared to placebo, emricasan is associated with clinically meaningful incremental reductions in HVPG with worsening baseline HVPG levels, strongly suggest that emricasan has the potential of providing patient benefit."

– Guadalupe Garcia-Tsao, M.D.
Yale School of Medicine
Yale Liver Center
VA-CT Health Care System

"… the findings … support additional investigation of this compound for those with compensated cirrhosis due to NASH and … at greatest risk of clinical decompensation for whom there are no alternate approved therapies."

– Arun Sanyal, M.B.B.S., M.D.
VCU School of Medicine
NIH NASH CRN
The Liver Forum

Emricasan: Robust NASH Clinical Pipeline Across the Spectrum of Liver Disease

Target Population	Preclinical	Phase 1	Phase 2	Milestone
ENCORE-PH (NASH Cirrhosis)	263 patients at 75 sites in the US and EU		Liver Function, Clinical Endpoint	Phase 2b Extension data expected mid-19
ENCORE-NF (NASH Fibrosis)	~330 patients at ~100 sites in the US and EU		Biopsy Endpoint	Phase 2b top-line data expected 1H19
ENCORE-LF (NASH Cirrhosis)	~210 patients at ~90 sites in the US		Clinical Endpoint	Phase 2b top-line data expected mid-19

Three Phase 2b NASH clinical trials designed with endpoints tailored to each patient population provide multiple independent paths forward

Conatus at a Glance

Lead compound emricasan has the potential to modify liver disease outcome

Capital sufficient through remaining data readouts and through 2019

Multiple pathways to significant fibrosis and cirrhosis markets

Three ongoing Phase 2b NASH trials reading out over the next 9 months

Novartis partnership fully funds remaining emricasan development

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Top-line Results

Striving to improve human health

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