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SAT-LB004

Therapeutic Potential of LPCN 1144 in NAFLD/NASH

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No conflict of interest to report

Exhibit 99.1

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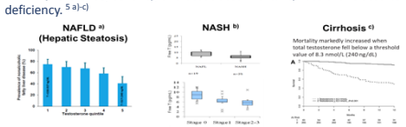
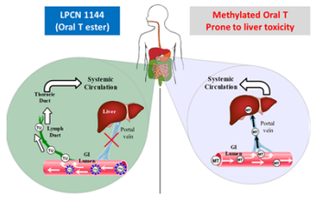
INTRODUCTION

- Nonalcoholic fatty liver disease is a chronic liver disease associated with excess fat (≥ 5%) stored in the liver, not caused by viral infection or heavy alcohol use.[1]
- Nonalcoholic steatohepatitis (NASH), a form of nonalcoholic fatty liver disease (NAFLD), is defined as the presence of ≥ 5% hepatosteatosis, inflammation, and hepatocyte injury (ballooning) with or without any fibrosis.[2]
- A significant overlap of comorbidities such as obesity, hypertension, hypertriglyceridemia, type 2 diabetes, and metabolic syndrome exists between hypogonadism and NAFLD/NASH.[3]

- Male hypogonadism is an emerging risk factor for NAFLD/NASH.[4]
- NAFLD prevalence, severity, and associated mortality rate are related to T deficiency. [5 a)-c)]



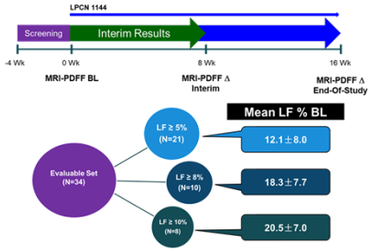
- Reportedly, symptoms of low T (sarcopenia, skeletal fragility, sexual/mood disorder, and anemia) are strongly associated with liver disease, likely due to compromised androgen signaling. Testosterone deficiency is also known to further exacerbate liver disease symptoms.[6]
- Unlikely methyl-T, LPCN 1144 is a lymphatically delivered orally bioavailable prodrug of bioidentical testosterone.



- The objective of this report is to assess therapeutic potential of LPCN 1144 on NAFLD/NASH.

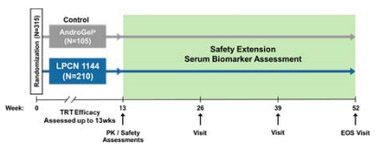
METHODS

- The Liver Fat Study (LFS) is a 16-week open-label, multi-center, single arm study with LPCN 1144 treatment in subjects (N=36) assessing potential NAFLD/NASH* prevalence and liver fat (LF) changes, assessed by MRI-PDFF.



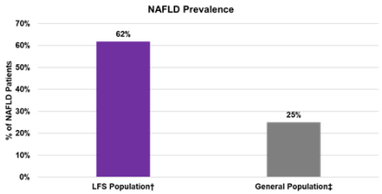
* In this study, NAFLD is defined as LF ≥ 5% by MRI-PDFF measure and LF ≥ 8% is potential for NASH.

- The Study of Androgen Replacement (SOAR) trial was an active controlled (topical T gel) randomized multicenter 52-wk study with LPCN 1144.



RESULTS – Liver Fat Study

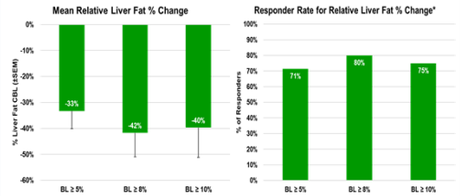
NAFLD is Over Represented in Hypogonadal Males



† NAFLD identified by MRI-PDFF ≥ 5% in LPCN 1144 Liver Fat Study
‡ Prevalence of NAFLD diagnosed by imaging hepatosteatosis ≥ 5% liver fat in general population (Younossi et al, J Hepatol 2016)

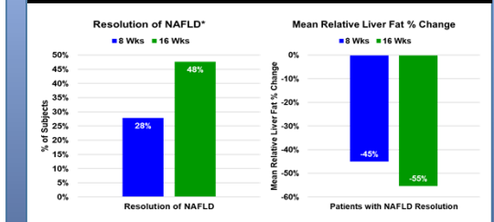
RESULTS – Liver Fat Study

Substantial Relative Reduction and Response with LPCN 1144



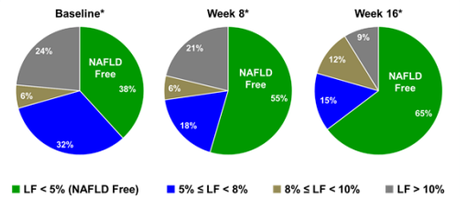
* Responder rate for relative change is % of patients with at least 30% relative reduction from baseline.

Substantial NAFLD Resolution with Robust Liver Fat Reduction



* Resolution of NAFLD is defined, when liver fat ≥ 5% at baseline, as liver fat is reduced to < 5% at 16 wks (EOS).

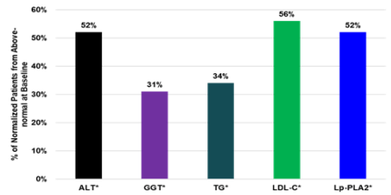
Longer LPCN 1144 Therapy Results in Better Response



* N=34 evaluated at baseline and week 16 (EOS) and N=33 at week 8 (interim visit: one did not visit)

RESULTS – SOAR Trial

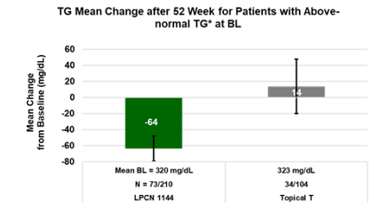
Meaningful Normalization of Key Serum Markers with LPCN 1144



N	42	36	73	16	25
Baseline	53.6 U/L	82.2 U/L	320 mg/dL	174 mg/dL	277 ng/mL

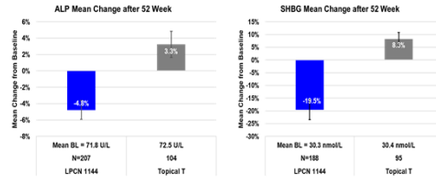
* ALT, GGT, TG, LDL-C, and Lp-PLA2 normal range upper limit is 40 U/L, 49 U/L, 200 mg/dL, 160 mg/dL, and 235 ng/mL, respectively ALT (Alanine aminotransferase), GGT (Gamma glutamyltransferase), TG (Triglyceride), LDL-C (Low-density lipoprotein cholesterol), Lp-PLA2 (Lipoprotein-associated phospholipase A2)

Unique Triglyceride Reduction Relative to Topical T Gel



* TG normal range in SOAR Trial: 45 – 200 mg/dL

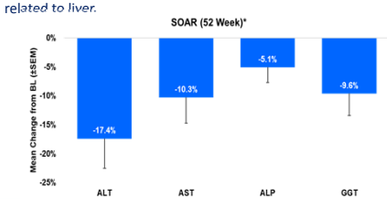
Unique Reductions of Alkaline Phosphatase (ALP) and Sex Hormone Binding Globulin (SHBG)



RESULTS – SOAR Trial

Liver-Related AEs and Liver Function Test

- LPCN 1144, with up to 52 weeks exposure, exhibited no adverse drug reaction in the Hepatobilliary System Organ Class (e.g., peliosis hepatitis, hepatic neoplasms, cholestatic hepatitis, and jaundice).
- Liver function test results show improvement of serum biomarkers related to liver.



Mean BL (U/L)	53.6	32.0	74.0	53.6

* Subgroup of patients with elevated ALT (> 40 U/L) at BL in SOAR (N=42): AST (Aspartate aminotransferase)

CONCLUSION

- ❑ **Male hypogonadism is strongly associated with NAFLD.**
- ❑ **LPCN 1144 therapy meaningfully reduced liver fat in hypogonadal males.**
- ❑ **Substantial proportion of NAFLD patients experienced NAFLD resolution with LPCN 1144 treatment.**
- ❑ **Based on liver fat and serum biomarker reductions, LPCN 1144 therapy demonstrated therapeutic potential in NAFLD/NASH patients and warrants further assessment.**

REFFERENCES

1. Masarone et al., Rev Recent Clin Trials 2014
2. Chalasani et al., Hepatol 2018 (AASLD Practice Guidance 2018)
3. Dhindsa et al., Diabetes Care 2010; Guay et al., Int J Impotent Res 2010; Rector et al., World J Gastroenterol 2008
4. Chalasani et al., Am J Gastroenterol 2012 (NAFLD Practice Guidelines 2012)
5. a) Kim et al., Gastroenterol 2012; b) Sumida et al., Gastroenterol Hepatol 2015; c) Sinclair et al., Liver Trans 2016
6. Sinclair et al., J Gastroenterol Hepatol 2015

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