SHEAR INSIGHTS

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HemoShear's REVEAL-Tx™ Platform Identifies Promising New Treatment Targets for Takeda NASH Partnership and Illuminates the Molecular Drivers of Liver Disease

HemoShear's partnership with Takeda has generated several early drug discovery therapeutic targets for treating liver disease using the REVEAL-Tx™ platform. These targets were shown to experimentally inhibit biological processes associated with inflammation and fibrosis that may lead to nonalcoholic steatohepatitis (NASH), cirrhosis, and liver cancer. Analysis using REVEAL-Tx™ suggests that inhibition of certain biological targets identified by the company showed disease responses that are superior to established mechanisms of fibrosis currently being targeted by other companies in clinical trials. These exciting data are being presented in a poster titled "Evaluation of Fibrotic Endpoints and Therapies in an *In Vitro* Human Surrogate Model of Nonalcoholic Steatohepatitis (NASH)" at the American Association for the Study of Liver Diseases (AASLD) Liver meeting in San Francisco this week.

"In less than a year, HemoShear has demonstrated that their *in vitro* human liver platform can uncover novel targets for the potential treatment of NASH," said Gareth Hicks, Ph.D., head of the GI Drug Discovery Unit at Takeda. "Through our partnership, we have not only identified promising targets, but we have shown that they compare favorably to others that are currently in clinical trials. This gives us confidence to move these programs forward."

HemoShear has studied more than 20 NASH drugs in development across the industry to identify better targets and therapeutics. "We have been successful because our REVEAL-Tx™ platform converges great human biology and computational science to generate valuable insights for developing safer and more effective therapies for NASH and other serious liver diseases," said Brian Wamhoff, Head of Innovation, HemoShear Therapeutics.

Recognizing the potential of HemoShear's platform, Takeda Pharmaceutical Company entered into a drug discovery partnership with HemoShear last October. The collaboration, worth up to $470 million in milestone payments, provides Takeda with exclusive access to HemoShear's REVEAL-Tx™ platform to discover novel targets and accelerate development of best-in-class therapies for NASH and other liver diseases.

Discovering Molecular Profiles of Liver Disease

HemoShear's technology has also provided unprecedented insight into the genetic drivers of liver disease. The company collaborated with Arun Sanyal, MD, a widely respected clinician-researcher in liver diseases and Professor of Internal Medicine at the Virginia Commonwealth University School of Medicine, to study gene expression in various stages of liver disease. This study, titled "Development and Validation of a Gene-Level Molecular Disease Activity and Fibrosis Score for Nonalcoholic Fatty Liver Disease," will be presented as a poster at the AASLD Liver Meeting.

In this study, Dr. Sanyal collected liver biopsies from 78 patients with a full spectrum of liver disease activity and fibrosis. HemoShear's computational biology team measured and analyzed gene responses of these samples to determine which genes are expressed at various stages of disease progression. The research identified the diverse genetic pathways that can lead to NASH, which could be used to predict disease progression.

Dr. Sanyal and his team plan to further validate this study by assessing long-term outcomes. "Our next step will be to evaluate gene expression in a longitudinal study so we can see how the genetic response evolves over time," said Dr. Sanyal. "The insights we are generating are the first step toward precision medicine approaches for NASH. We are identifying which pathways are driving disease in individual patients so that we can develop drugs that are superior to current options in reducing disease activity and scarring of the liver and to eventually prevent cirrhosis."

HEMOSHEAR THERAPEUTICS

HemoShear Therapeutics discovers novel biological targets and advances drug programs to treat metabolic disorders with significant unmet patient need.