Pfizer Logo

DILIsym Services, Inc. Utilizes Flagship Technology to Evaluate Prospective NAFLD Treatments in Collaboration with Pfizer Inc.

Wednesday, October 19, 2016 - 08:00am

Companies will present preliminary results at ACoP7 on October 25 in Bellevue, Washington

Research Triangle Park, N.C., Oct. 19, 2016 – DILIsym Services, Inc. is pleased to announce that initial results from an ongoing collaboration with Pfizer Inc. (NYSE: PFE) will be presented on Oct. 25 at the Seventh American Conference on Pharmacometrics (ACoP7) conference in Bellevue, Wash. The abstract being presented, "Predicting the safety and efficacy of inhibition of diacylglycerol transferase 2 for the treatment of non-alcoholic fatty liver disease (NAFLD)," is a collaborative effort between scientists at both companies to create a novel mathematical modeling tool to potentially predict liver injury progression in patients by simulating non-alcoholic fatty liver disease (NAFLD) and its improvement with treatment. The collaboration utilizes DILIsym Services' new quantitative systems pharmacology (QSP) modeling software, NAFLDsym™.

NAFLDsym™ can be used to help evaluate treatment modalities for NAFLD, by utilizing the NAFLD SimPops™ to predict efficacy, as was done in the work being presented at the ACoP7 conference. Specific compounds can be simulated by utilizing key laboratory and/or clinical data describing DMPK and pharmacodynamic characteristics, enabling pharmaceutical companies to prioritize compounds and targets. Additionally, NAFLDsym™ can be used to help optimize clinical trial protocols by determining favorable dosing paradigms and outcome (i.e., liver fat reduction) measurement frequency.

NAFLDsym™ includes many of the primary components of NAFLD pathophysiology: Steatosis, regulation of liver triglyceride and fatty acids, lipotoxicity, liver injury and proliferation, hepatocellular bioenergetics, innate immune system and inflammatory mediators, dynamic body weight and its effects on lipids, and biomarkers (e.g., ALT, AST, cytokeratin cleaved K18). These mechanistic components are combined in NAFLDsym™ to generate >300 simulated NAFLD patients. Reflecting clinical patient populations, these populations of simulated NAFLD patients (SimPops™) not only have steatosis, but many also have liver injury (e.g., elevated ALT). NAFLDsym™ is an adaptation of DILIsym Services, Inc. flagship predictive liver injury software, DILIsym®.

"NAFLD is emerging as the primary reason for liver disease in many parts of the world, including the U.S., Europe, and China, and we are excited about the role NAFLDsym™ can play in accelerating the development of medicines to treat this condition," said Paul Watkins, Professor of Pharmacy, Medicine, and Public Health at The University of North Carolina at Chapel Hill (UNC) and the Director of the University of North Carolina Institute for Drug Safety Science and DILIsym Services, Inc. Chairman of the Board of Directors.

"We believe that a reliable predictive model for NAFLD could potentially become an industry-standard tool used to monitor potential treatments for patients with NAFLD/NASH, for which limited treatment options

currently exist," said Morris Birnbaum, Senior Vice President and Chief Scientific Officer, Cardiovascular and Metabolic Research Unit, Pfizer. "Our collaboration with DILIsym has been positive to date and we look forward to the results that we can generate together."

About NAFLD and NASH

Non-alcoholic steatohepatitis (NASH) is an advanced stage of non-alcoholic fatty liver disease (NAFLD), which is categorized at early stages as excessive fat accumulation in the liver, and it is mostly asymptomatic. NASH develops when excess fat accumulates in the liver (>5% liver fat) accompanied with inflammation and hepatic cellular injury. While fat accumulation in the liver alone does not correlate with increased morbidity or mortality, the progression to NASH increases the risk of cirrhosis, liver failure and liver cancer. Morbidity and mortality from liver diseases are increased in patients with NASH and they correlate strongly with the morbidity and mortality of cardiovascular diseases.

The prevalence of NASH in the general US population is estimated at 3-5% and around 2-4% globally. NASH is mostly diagnosed in patients with obesity, diabetes, high cholesterol and triglycerides levels and insulin resistance. With currently no approved therapies to treat NASH, this is an area of great unmet medical need.

References:

Armstrong et al, Hepatology 2014
Chalasani et al, Hepatology 2012
LaBrecque et al, J Clin Gastroenterol 2014, & WGO Global Guideline, 2012
Lazo et al, Am J Epidemiol 2013
Sanyal et al, Clinical Liver Disease 2015
Vernon et al, Aliment Pharmacol Ther 2011
Williams et al, Gastroenterology 2011
Younossi et al, Hepatology 2011
Younossi et al, Hepatology 2016
Wree, et al, Nat Rev Gastroenterol Hepatol 2013

About DILIsym Services, Inc.

DILIsym Services, Inc. is a leader in quantitative systems toxicology (QST) and quantitative systems pharmacology (QSP), providing software and consulting to improve the safety and efficacy profiles of therapeutics reaching the market. DILIsym Services, Inc. has programs in NAFLD and drug induced liver injury, employing the QSP platform NAFLDsym™ and the QST platform DILIsym®. Moreover, DILIsym Services, Inc. is the coordinating member of the DILI-sim Initiative, a consortium comprised of 12 pharmaceutical companies with the goals of the DILI-sim Initiative including developing the DILIsym® software and advancing the knowledge of DILI for the benefit of the scientific community and the public at-large. More information about NAFLDsym™ software can be found at dilisym.com (http://www.dilisym.com/Products-Services/nafldsym.html) .

DILIsym Services, Inc. Contact:

Scott Q Siler (ssiler@dilisym.com)
President