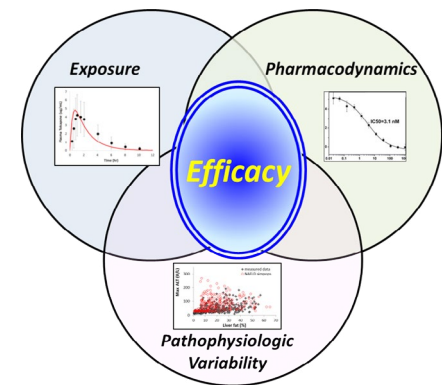


NAFLDsym® is Quantitative Systems Pharmacology (QSP) Software Capable of Exploring and Predicting Efficacy for Novel NASH Treatments

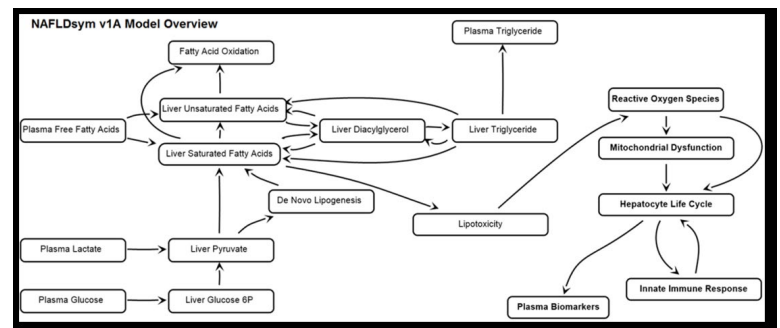
Sound Science

- NAFLDsym v1A currently available, with focus on steatosis and lipotoxicity
- NAFLDsym v2A will include fibrosis and inflammation, available Q4 2018
- Multiple application examples for active drug candidates
- NAFLDsym is used to evaluate the efficacy potential of new drug candidates to treat non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH)
- NAFLDsym can be used to better understand NAFLD/NASH pathophysiology and treatment mechanisms
- DILIsym Services, Inc. has leveraged its long standing expertise in liver physiology and metabolic diseases to develop NAFLDsym
- Successful collaborations with 4 large pharmaceutical companies to date



Capable - Key Mechanisms Included in NAFLDsym v1A:

- Steatosis
- Lipotoxicity
- >300 simulated patients with pathophysiologic variability
- *De novo* lipogenesis and VLDL-TG secretion
- Regulation of liver triglycerides and fatty acids
- Liver regeneration / hepatocyte proliferation
- Hepatocellular bioenergetics
- Biomarkers (e.g., ALT, NAS, cytokeratin cleaved K18)
- Weight loss/gain and its effects on lipids
- Integrated with DILIsym® to enable parallel prediction of hepatotoxicity



Application Driven

- Optimize clinical trial protocols by determining favorable dosing paradigms and outcome (i.e., liver fat reduction) measurement frequency
- Evaluate targets and/or specific compounds utilizing key laboratory and/or clinical data describing DMPK and pharmacodynamic characteristics
- Prioritize compounds and targets