

Reveal Biosciences is creating a new generation of data powered pathology to enhance research and improve global healthcare. Reveal combines cutting edge artificial intelligence (AI) with traditional histopathology to transform tissue biology into actionable data. **imageDx™**, our data-powered pathology platform provides secure whole slide image management and AI-based image processing in the cloud.

Our fully automated laboratory and experienced scientists also provide histopathology, immunohistochemistry (IHC) and in situ hybridization (ISH) expertise for a wide range of pharmaceutical, biotech, academic, and government institutions. With a world class team of data and research scientists focused on addressing some of the biggest problems in healthcare, Reveal is developing a pipeline of AI-based digital assays for preclinical research, clinical trials, and decision support.

Summary: Non-alcoholic fatty liver disease (NAFLD) is one of the most common causes of chronic liver disease. It results in an accumulation of fat in the liver (steatosis), and can progress to a more pathologically significant form of NAFLD known as non-alcoholic steatohepatitis (NASH). Patients or rodent models of NAFLD and NASH present on a spectrum of the disease, characterized by hepatitis (inflammation) and hepatocellular ballooning (cellular injury), which can lead to excessive fibrosis and scarring.

Currently, diagnosis is confirmed by liver histology that is qualitatively analyzed by experienced pathologists who assign scores for each feature. However, documented inter-pathologist variability in scoring and the semi-quantitative nature of the scoring system itself highlight the need for new quantitative methods to ensure the unbiased, consistent assessment of disease.

imageDx™: NASH is a collection of artificial intelligence (AI)-based pathology models to provide quantitative histopathology data from liver tissue. These machine learning algorithms were developed with input from experienced veterinary pathologists with the goal of providing a more quantitative and reproducible analysis of the tissue pathology.

Our enhanced NASH data points provide an in depth assessment of inflammation and fibrosis in liver tissue. Visualize immune cell clusters and location with respect to portal regions across an H&E stained tissue section and determine distribution of fibrosis fibers to better understand fibrosis severity and progression.

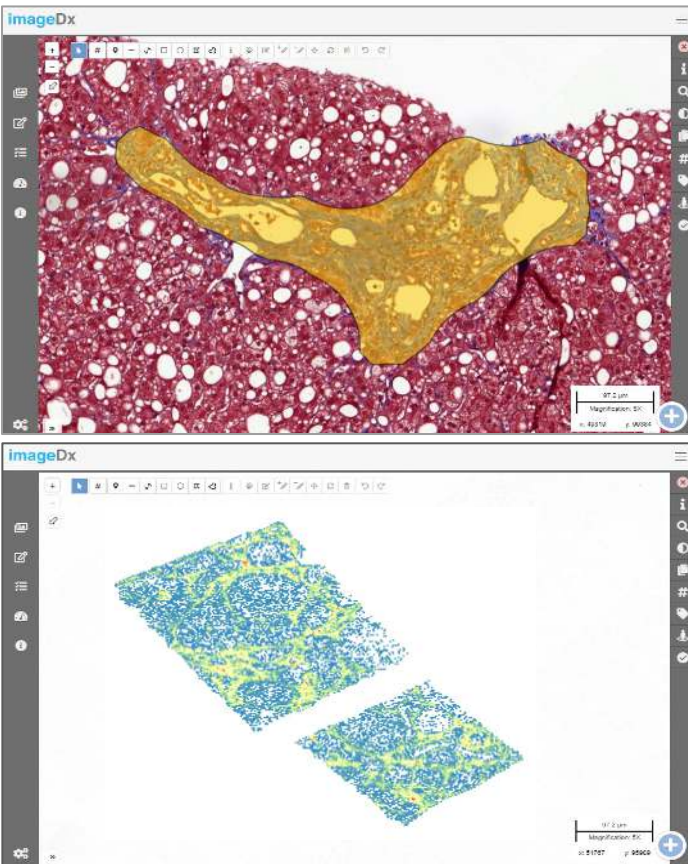


Figure 1. Top: Masson's Trichrome-stained liver tissue with a masked portal region, **Bottom:** Heatmap overlay displaying clusters of immune cells across the entire tissue section visualized on the imageDx™ interface.

Tissue Feature	Output
Immune Cell Clustering	Number of clusters across tissue section Average cluster size (cells)
Immune Cell Proximity	Number of immune cells within 100 um of a portal region
Junction Branch Analysis	% Type 1 Fibers (isolated) % Type 2 Fibers (1 connection) % Type 3 Fibers (2+ connections)
Custom Data Points	Correlate pathology with genomic, biomarker, or outcome data