

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 NASH 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. The data outputs are listed below.

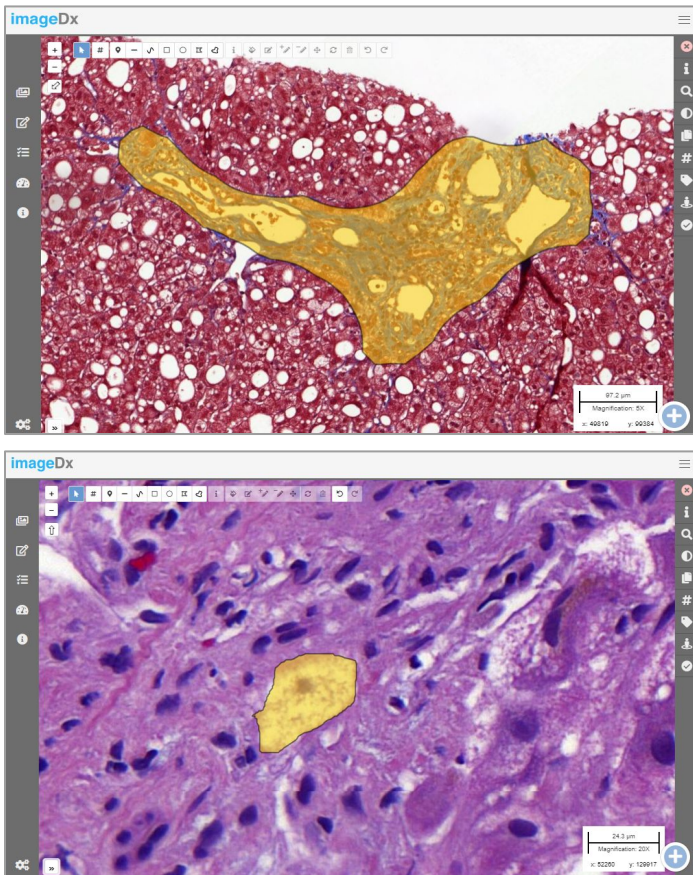


Figure 1. Top: Masson's Trichrome-stained liver tissue with a masked portal region, **Bottom:** H&E-stained liver tissue with a masked ballooning cell visualized on the imageDx™ interface.

Tissue Feature	Output
Steatosis	Percentage (%), Area (mm ²)
Macro-vesicular	Percentage (%)
Micro-vesicular	Percentage (%)
Mean Vesicle Size	um ²
Mean Lipid per Hepatocyte	um ²
Steatosis Score	Algorithm-derived score
Ballooning Hepatocyte Density	Ballooning cells per cm ²
Ballooning Score	Algorithm-derived score
Immune Cells	Count, Area (mm ²), Density (cells/mm ²)
Immune Cell Foci	Foci count, Mean foci size
Inflammation Score	Algorithm-derived score
Fibrosis Area	mm ² , Percentage (%)
Fibrosis Intensity	Intensity units
Fibrosis Score	Algorithm-derived score
Mallory Bodies	Present or Absent
NAS Score	Steatosis score + Inflammation score + Ballooning score
Tissue Area Analyzed	mm ²