

BioIVT's High-purity Kupffer Cells to assist Drug Discovery & Development

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Dysregulation of the Kupffer cell response contributes to liver diseases such as nonalcoholic fatty liver disease (NAFLD), nonalcoholic steatohepatitis (NASH), and liver fibrosis and Helps in predicting adverse drug reactions



BioIVT, a leading provider of research models and services for drug and diagnostic development, on 11 May 2020 announced that it is adding high-purity Kupffer cells to its portfolio of human primary hepatic cells to support liver disease drug discovery and development and help predict adverse drug reactions.

Kupffer cells perform a scavenger role in the liver, removing small particles, senescent cells and cell debris. They also play an important role in the immune response to liver pathogens. Dysregulation of the Kupffer cell response contributes to chronic inflammation, leading to liver diseases such as nonalcoholic fatty liver disease (NAFLD), nonalcoholic steatohepatitis (NASH), and liver fibrosis. NASH is a type of NAFLD, which also includes liver inflammation and liver cell damage.

BioIVT is already a leading provider of Kupffer-enriched non-parenchymal cells (NPCs); researchers use these cells in a variety of plated monocultures, co-cultures and liver microtissue configurations. As researchers are increasingly interested in evaluating the effects of Kupffer cells in predictive models, BioIVT developed the high purity product to provide them with additional options. High-purity Kupffer cells will be sold in vials containing a minimum of one million viable cells.

“Our staff’s technical expertise has enabled us to isolate high-purity Kupffer cells,” said BioIVT Senior Vice President, ADME-Tox Dr. Chris Black. “We now offer this valuable resource as a catalog product to drug discovery and development researchers for use in a variety of *in-vitro* and disease models, including mechanistic and screening assays, toxicity models, and for predicting inflammation-induced adverse drug reactions.”

BioIVT’s Kupffer cells complement its portfolio of biospecimens for NASH and NAFLD models, including human hepatocytes with a NAFLD activity score (NAS), peripheral blood mononuclear cells (PBMCs), and other biofluids from donors with clinically defined NASH. To further support researchers in this field, BioIVT also sells the requisite media.

To isolate high-purity Kupffer cells, BioIVT uses an affinity purification method based on cell surface markers that preferentially attach to magnetic beads. Cell purity is assessed by CD68 positivity using flow cytometry. Cell function is

assessed based on Interleukin 6 (IL-6) release in response to *lipopolysaccharide* (LPS) and phagocytosis of fluorescent latex beads.