



mosaic
cell sciences a division of Organovo

Healthy & MASH/MASLD NPC Solutions



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Healthy and MASH / MASLD donor-derived nonparenchymal cells (NPCs) provide high fidelity models to investigate the complex biological mechanisms for your research and discovery programs.

Mosaic Cell Sciences Primary Human Hepatocyte solutions advance the specific needs of our partners' applications in drug discovery, ADME/ toxicology, and etiopathology of disease. Our experts isolate liver cell populations from donors using strict criterion to ensure high post-thaw viability and post-thaw yield, curtailing the effects of warm and cold ischemia from donor organs and tissues. With over 45 years of isolating cells from human organ and tissue donors, our dedicated team of scientists supplies hepatic parenchymal and also nonparenchymal cells with exceptional functional and phenotypic properties to advance your scientific discoveries.

Enhance your in vitro models with our primary human hepatic cells to recapitulate the functionally normal or MASH/MASLD phenotypes.

Advanced Drug Metabolism Studies:

- Understand the impact of nonparenchymal cells on drug metabolism pathways.
- Assess drug interactions and responses in a more physiologically relevant context.

Disease Modeling:

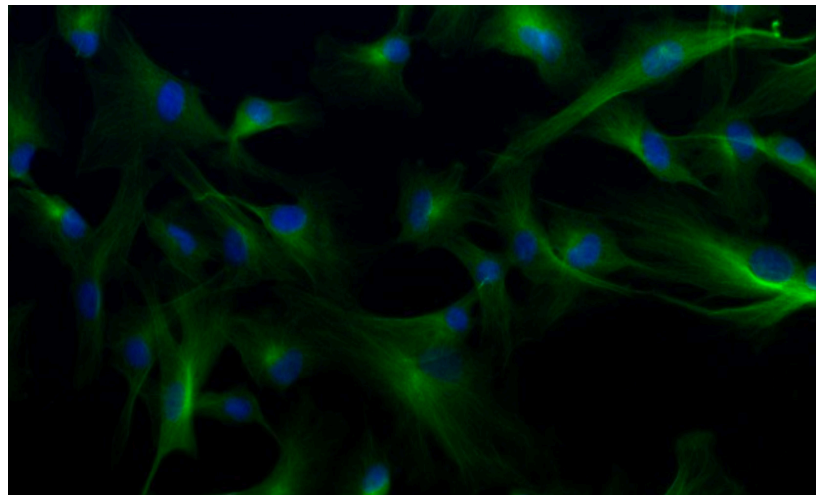
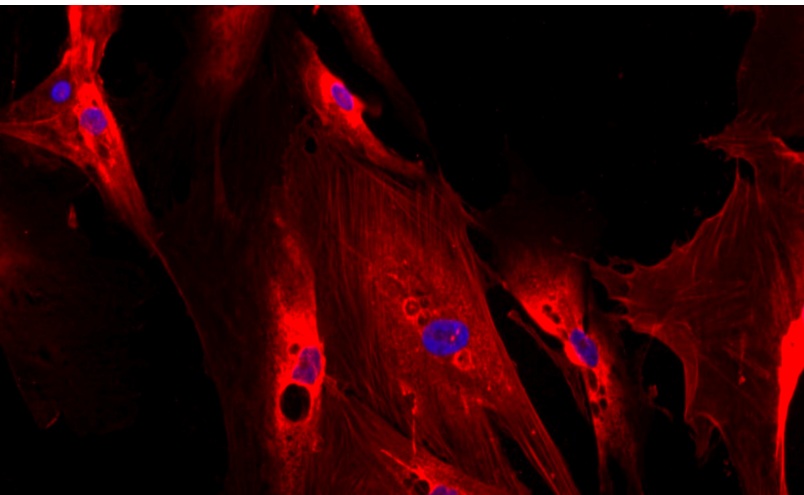
- Uncover the cellular mechanisms behind MASH/MASLD progression.
- Develop and test drugs targeting nonparenchymal cell-mediated pathways.

Build Physiological Models:

- Build more realistic in vitro liver models by incorporating primary nonparenchymal cells.
- Achieve a higher level of accuracy in predicting drug responses and toxicities.

Improved Predictive Power:

- Enhance the predictability of drug responses in complex liver environments.
- Identify potential challenges early in the drug development process.



Healthy and MASH/MASLD Liver Endothelial Cells:

HLECs support vascular integrity and contribute to the regulation of blood flow within the liver. Alterations to HLEC fenestrations and secretion of inflammatory cytokines/chemokines drive MASH and MASLD progression. We provide the following for characterization of our HLECs:

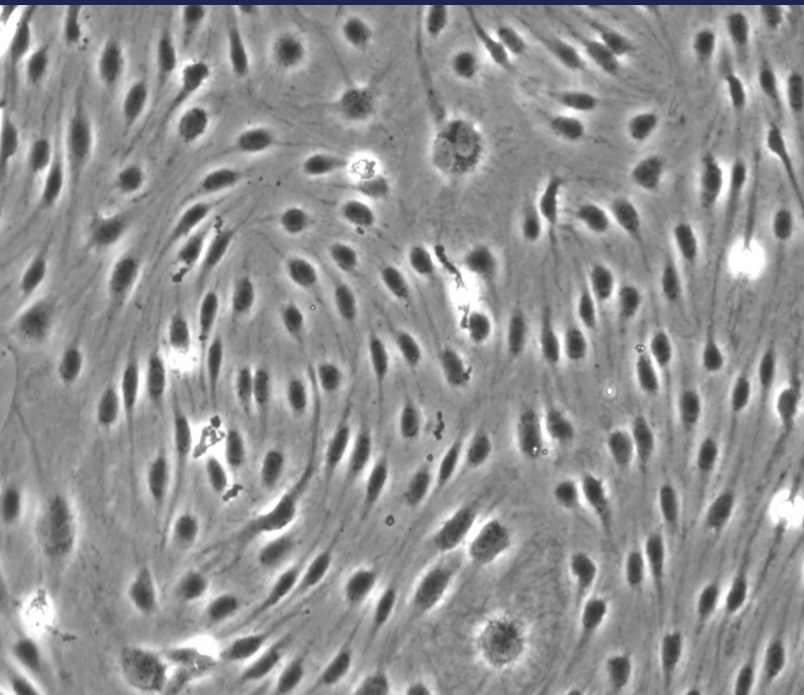
- Viability and yield for each donor-derived lot
- Characteristic morphology of functional liver endothelial cells
- Thawing and handling instructions for optimal plating of cells
- Board Certified Pathologist assessment of MASH/MASLD score by H&E and trichrome staining.
- Positive Expression of CD31, CD146, von Willebrand Factor
- Negative Expression for TE7 and GFAP
- Extensive Donor information, including serology, representative images, BMI, cause of death, medical history, and alcohol use provided in the Certificate of Analysis for each donor-specific lot.

Healthy and MASH/MASLD Stellate Cells:

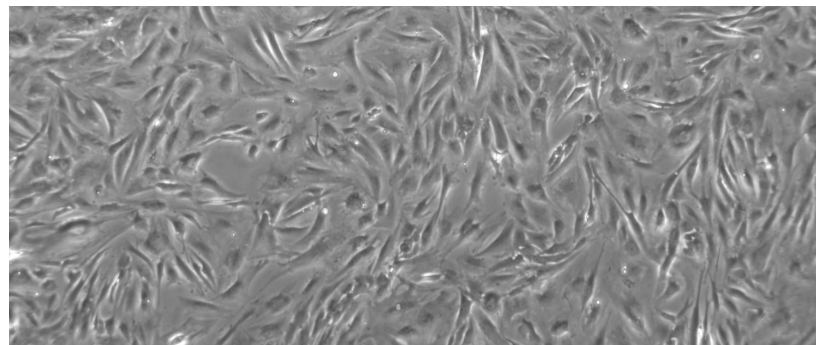
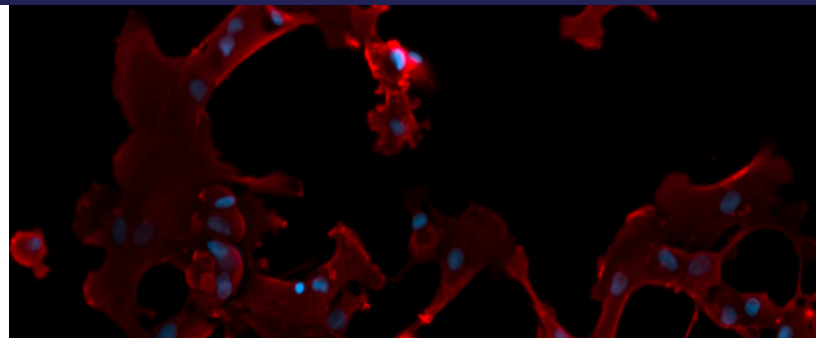
Stellate cells maintain the extracellular matrix components with the Space of Disse. During MASH, activation of stellate cells leads to pathological deposition of collagens, fibronectin, and other matrix components. Enhanced fibrosis caused by ECM deposition limits the transport of nutrients and drugs to hepatocytes for their metabolism. We provide the following information for our stellate cells:

- Viability and yield for each donor-derived lot
- Characteristic morphology of functional stellate cells
- Positive Expression of GFAP and α -SMA
- Negative Expression of TE7 and CD31
- Thawing and handling instructions for optimal plating of cells
- Extensive Donor information, including serology, representative images, BMI, cause of death, medical history, and alcohol use provided in the Certificate of Analysis for each donor-specific lot.
- Board Certified Pathologist assessment of MASH/MASLD score

Human Liver Endothelial Cells, as seen using phase-contrast microscopy. Passage 2 endothelial cells display typical elongated morphology when cultured on collagen type I coated dishes.



Immunofluorescent (top), and phase contrast microscopy (bottom) highlight α SMA expression and fibroblast-like morphology of Mosaic Cell Sciences' donor-derived stellate cells at passage 2, respectively. Stellate cells were cultured on a tissue culture treated plastic surface.

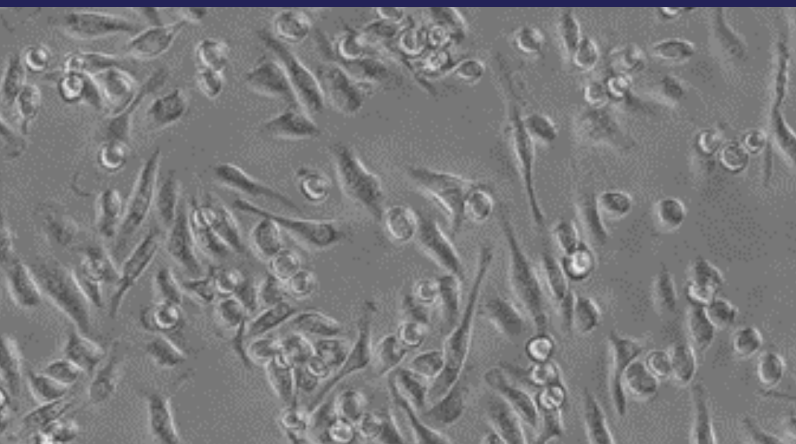


Healthy and MASH/MASLD Kupffer Cells:

Kupffer cells play an integral role in innate immunity against xenobiotics in the hepatic system. Functioning as the key phagocytic cells within the liver, Kupffer cells prevent infection by viruses, macrobacteria, microbiota, and other pathogens. In MASH/MASLD, enhanced inflammatory signaling stimulates inflammatory cytokine and chemokine production by Kupffer Cells to create a vicious positive feedback loop. However, ablation of Kupffer Cells also drives steatosis, indicating a partially anti-inflammatory role for these macrophagic cells. To study these effects, we ensure the following for our healthy and MASH/MASLD Kupffer Cells.

- Viability and yield for each donor-derived lot
- Characteristic morphology of functional stellate cells
- Positive Expression of CD11b and CD163
- Negative Expression of TE7
- IL-6, IL-8, TNF- α , and IL-10 induction by LPS
- Thawing and handling instructions for optimal plating of cells
- Extensive Donor information, including serology, representative images, BMI, cause of death, medical history, and alcohol use provided in the Certificate of Analysis for each donor-specific lot.
- Board Certified Pathologist assessment of MASH/MASLD score by histopathology, provided with Hematoxylin and eosin and trichrome staining.

Kupffer cells as seen under phase contrast microscope, seeded on type I collagen microplates.



Hepatic Cell Offerings

Product	Description (Available as healthy or MASH/MASLD)
120503-03	Human liver endothelial cells cryopreserved. 1×10^6 cells/vial
121103-03	Human liver stellate cells - cryopreserved. 1×10^6 cells/vial
121903-03	Human Kupffer Cells - cryopreserved. 1×10^6 cells/vial
120803-03	Human hepatocytes - cryopreserved. 5-10 x 10^6 viable cells/vial
120803-06	Human hepatocytes - freshly plated. 5-10 x 10^6 viable cells/vial
120803-19	Human hepatocytes - suspension. 5-10 x 10^6 viable cells/vial
120606	Human liver tissue formalin fixed
121906	Human liver tissue snap frozen

Connect with our experts to learn more about how our solutions can meet your needs!

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