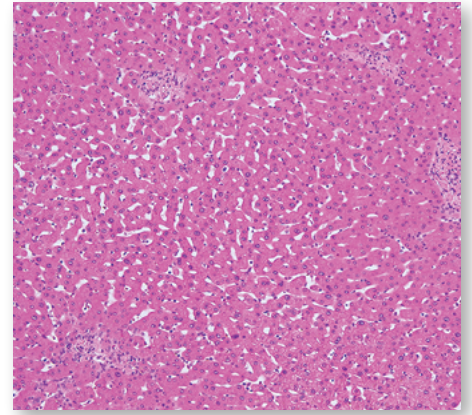


Human Hepatocytes

High quality, fully characterized cells from diverse donor populations, tailored to research.

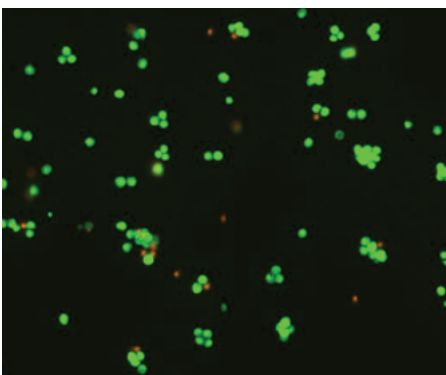


LifeNet Health's primary human hepatocytes meet the specific needs of a wide range of scientific research applications, including drug development and hepatotoxicity testing. Donated liver tissues are procured under state-of-the-art conditions using the highest standards for tissue recovery and preservation, which utilize enhanced tissue handling and transportation methods, and minimize warm and cold ischemia times to optimize tissue processing outcomes. These measures, combined with refined cell isolation techniques and advanced post-thaw characterization, represent a new industry standard for hepatocyte quality and performance.

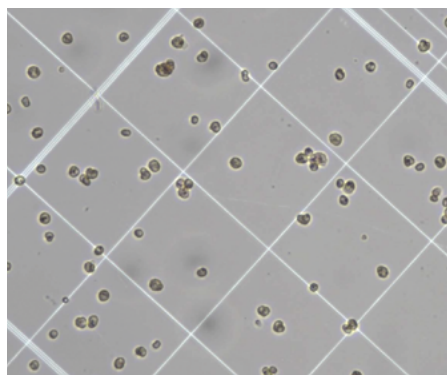
Prior to release, each batch of cryopreserved hepatocytes is carefully characterized to determine the post-thaw results. The batch-specific functionality and clinical data includes the following:

- Cell viability and yield per vial.
- Morphological integrity and attachment efficiency.

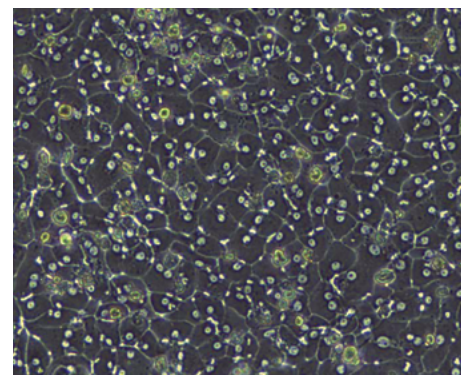
- Optimal seeding density (based on a 24- and 96-well plate formats).
- CYP enzyme activity using prototype selective substrates for all the major enzymes pertinent to drug discovery and development.
- Additional functional testing can be performed upon request for specific cell culture applications.
- Each batch comes with a comprehensive Certificate of Analysis (CoA) with representative images, relevant donor demographics, BMI, pre-mortem liver function lab values, serological test results, and pertinent tobacco, alcohol, drug, and medication history.
- Liver biopsy histology images and pathological results may also be available upon request.



Neonatal hepatocytes (post-thaw, matched brightfield, viability staining)



Adult primary hepatocytes (post-thaw, brightfield optics)



Adult primary human hepatocytes (day 4 culture)

Categories of Cryopreserved Human Hepatocyte Lots

The following are the major categories of cryopreserved hepatocytes that are currently available through LifeNet Health. Additional options or categories, not listed below, may be considered upon individual request.

Adult Suspension/Metabolism Qualified:

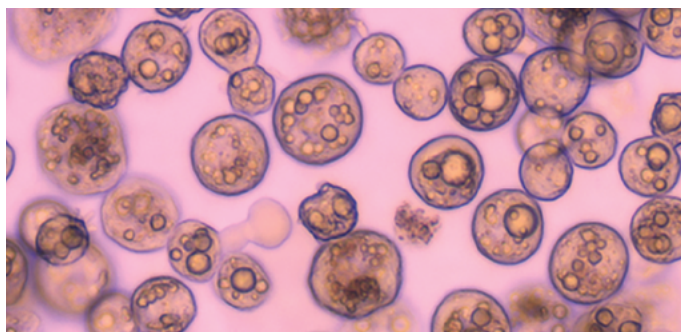
Primary adult human hepatocytes are considered the preferred method for determining the metabolic stability and intrinsic clearance of new compounds in development. LifeNet Health's suspension batches of cryopreserved hepatocytes are characterized for CYP enzyme activity using prototype selective substrates for phase 1 and 2 metabolic pathways.

Adult Plateable/Induction Qualified:

Use of cultured primary human hepatocytes has become the accepted best practice for conducting in vitro testing of new drugs for their potential to be involved in unwanted drug-drug interactions due to induction of hepatic clearance pathways. LifeNet Health's induction-qualified batches of cryopreserved hepatocytes are tested for response to prototype inducers of CYP1A2, CYP2B6, and CYP3A4. These prequalified lots are guaranteed to produce stable confluent monolayers for a minimum of 1 week and meet or surpass the induction specifications when used in conjunction with LifeNet Health's recommended culture conditions.

Adult High BMI/NAFLD/NASH:

Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease in Western countries with a wide disease spectrum. For LifeNet Health's Adult High BMI/NAFLD/NASH hepatocytes (suspension and plateable), a histopathological evaluation of formalin-fixed, paraffin-embedded tissue sections after H&E and trichrome staining is performed by a certified liver pathologist. Representative histological images and a pathology report can be provided with each CoA upon request.



Neonatal/Pediatric/Juvenile:

Developmental changes in the expression of drug metabolism and other clearance mechanisms determine the pharmacokinetics and toxicokinetics of chemicals at different life stages. These differences are critical in regulating the clearance and accumulation of drugs, and thus influence the pharmacodynamic and toxicodynamic responses in newborns and children. LifeNet Health provides suspension and plateable batches of hepatocytes from liver tissues representing a broad range of life stages, including neonatal, pediatric, and juvenile.

For more information: cells_tissues@lifenethealth.org

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