

Primary Human Hepatocytes

USING PRIMARY HUMAN HEPATOCYTES TO ACCELERATE PREDICTIVE TRANSLATIONAL RESEARCH

AnaBios human primary hepatocytes provide the most comprehensive metabolic activity for researchers studying liver function and drug metabolism. Our hepatocytes are carefully isolated and characterized to ensure excellent quality and consistency. AnaBios hepatocytes have demonstrated high viability and functionality, making them an ideal model for predicting drug metabolism and toxicity in humans.

GET THE ANABIOS ADVANTAGE:

EARLY HUMAN INSIGHTS

- **Tiered Qualification.** Our tiered qualification process involves multiple testing stages to ensure superior quality and consistency across multiple lots.
- **Large Lot Sizes.** Large lot sizes enable researchers to perform experiments with the same batch of cells for extended periods, reducing experimental variability.
- **Cell Viability.** Our high cell viability allows for more accurate and reliable prediction of drug metabolism and toxicity.
- **Reliable Shipping.** We offer fast shipping for domestic and international orders.
- **Donor Information.** Extensive donor information provides researchers with a deeper understanding of the variability in drug metabolism and toxicity responses across different patient populations.

- Suspension hepatocytes – suitable for short-term analysis within 2-4 hours, including clearance and metabolism studies.
- Plateable hepatocytes – remain adherent in a cobblestone morphology for at least 5-14+ days with lot-specific plating duration indicated on the Certificate of Analysis.
- Metabolism – thawed and plated hepatocytes remain metabolically active for 5-7 days and are ideal for more extended studies, including transporter, induction and toxicity testing.
- Induction and transporter activity – all lots are tested for induction activity and bile canaliculi formation.
- Spheroid competency – hepatocytes are tested for the ability to form spheroids for 3D-based investigations.

BEST-IN-CLASS HUMAN TISSUE RECOVERY & PRESERVATION

AnaBios methodologies for high quality and functional human tissue procurement center around the perfusion of human organ and tissue samples with solutions that temporarily induce metabolic arrest and slow down the biochemical processes responsible for ischemic and reperfusion injury. Tissue and cell quality are verified through RNA Integrity Number (RIN) scores and functional quality control measures.

Advantages of Primary Tissue Over Cell Lines

Although primary human liver cells have a limited lifetime compared to cell lines, they are fully metabolically active and thus more physiologically relevant. Primary human liver cells offer many advantages in studying hepatotoxicity when compared to liver cell lines, which can be used only for cytotoxicity due to metabolic deficiencies. In addition, primary human hepatocytes are a translational model as they exhibit the various combinations of metabolic profiles normally found within the human population. AnaBios hepatocyte biobank enables investigation of donor-specific responses across diverse population demographics.

Advantages Over Fresh Hepatocytes

Cryopreserved hepatocytes offer the advantage of biobanking, thus ensuring study reproducibility using the same lot of cells as well as bringing the freedom of using cells on your timetable. AnaBios' proprietary cryopreservation methods enable short- and long-term storage with high viability, enzyme function, enzyme induction, transporter activity and spheroid competency upon thaw.

Research Use Only

As part of our translational research model, AnaBios aims to translate results from scientific research that directly benefits humans. Therefore, we follow the published recommendations of the U.S. Food and Drug Administration for the use of human hepatocytes and liver tissue. All AnaBios primary human hepatocyte products and human liver tissue are for research use only and are not approved for use in humans or clinical diagnostic testing.

SPECIFICATIONS

TISSUE	Human liver - hepatocytes	
DESCRIPTION	SUSPENSION CELLS Quality control tested for post-thaw viability, cell yield and CYP activity across an 11 enzyme panel: CYP1A2, CYP2B6, CYP2C8, CYP2C9, CYP2C19, CYP2D6, CYP3A4 (Midozolam), CYP3A4 (Testosterone), Phase 1 (ECOD), SULT, UGT and AO.	PLATEABLE CELLS Quality control tested for post-thaw viability, cell yield, plating confluency and duration, CYP activity of suspension cells, as well as induction, the presence of bile canaliculi, and spheroid formation.
APPLICATIONS	<ul style="list-style-type: none">● CYP activity● Metabolic stability● Induction & transporter activity● Intrinsic clearance● Cell viability● High content cytotoxicity● Bioenergetics● Phospholipid assays	
SOURCE	<ul style="list-style-type: none">● Healthy & diseased donors● Contact us for specific clinical and demographic background requests.	
ANNOTATION	Extensive profile includes sex, age, race, cause of death, BMI, smoking and alcohol use, substance use, HLA typing, serology data, culture results, and past medical history.	
Format	Cryopreserved and stored in liquid nitrogen. Maintenance media provided.	

ORDERING

PRODUCT	DESCRIPTION
Human Cryosuspension Hepatocytes*	5-10 million viable cells per vial**
Human Cryoplateable Hepatocytes*	5-10 million viable cells per vial**
Human Spheroid-Qualified Hepatocytes*	5-10 million viable cells per vial**
AnaBios Maintenance Medium	250mL
AnaBios Plating Medium	250mL
AnaBios Thaw Medium	250mL

* A User Guide is provided.

**See Certificate of Analysis (COA) provided with the cells for lot & actual number.