



XenoTech offers hepatocyte products for all your drug development needs.

Individual Cryopreserved Human Hepatocytes

Cryopreserved human hepatocytes are suitable for induction, inhibition, clearance, uptake and toxicity studies, although typically used to study Phase I and II metabolism. Donors can be selected based on activity, demographics, age, gender and any other unique characteristics.

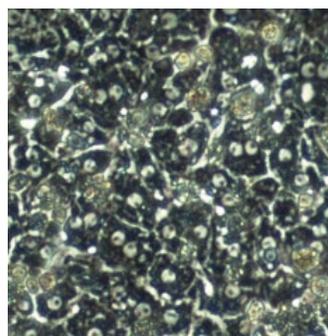
Plateable

XenoTech's plateable hepatocytes are a convenient alternative to using fresh hepatocytes for induction studies, metabolic stability and toxicity studies. Characterization provided with plateable hepatocytes include:

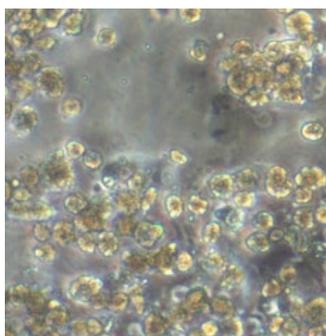
Characterization Provided

Enzyme	Marker Substrate Reaction
CYP1A2	Phenacetin O-dealkylation
CYP2A6	Coumarin 7-hydroxylation
CYP2B6	Bupropion hydroxylation
CYP2C8	Amodiaquine N-dealkylation
CYP2C9	Diclofenac 4'-hydroxylation
CYP2C19	S-Mephenytoin 4'-hydroxylation
CYP2D6	Dextromethorphan O-demethylation
CYP2E1	Chlorzoxazone 6-hydroxylation
CYP3A4/5	Testosterone 6 β -hydroxylation
CYP3A4/5	Midazolam 1'-hydroxylation
UGT	7-Hydroxycoumarin glucuronidation
SULT	7-Hydroxycoumarin sulfonation

- AMY (Assured Minimum Yield)
- % Viability
- CYP 1A2, 2B6, 3A4 fold induction



XenoTech cryoplateable lot



Competitor cryoplateable lot

Suspensions

These hepatocytes are ideal for metabolism studies. XenoTech's suspended hepatocytes come in three different assured minimum yield (AMY) categories; 3 million, 4 million and 6 million cell yields. Characterization data included with suspended hepatocytes are the same as plateable hepatocytes without the inclusion of induction data.

Uptake Transporter Characterized

Hepatocytes can be used to evaluate active uptake of compounds into cells. These are perfect to assess how uptake transporters affect the metabolism of your compound. Uptake transporter characterized hepatocytes include all characterization provided with hepatocyte suspensions as well as the following:

Characterization Provided

Enzyme	Marker Substrate Reaction
OATP	Estrone-3-sulfate
NTCP	Taurocholic Acid
OCT1	1-Methyl-4-phenylpyridinium Iodine
CYP2D6	Dextromethorphan O-demethylation
CYP2E1	Chlorzoxazone 6-hydroxylation
CYP3A4/5	Testosterone 6 β -hydroxylation
UGT	Glucuronidation of 4-Methylumbelliferone

Pooled Cryopreserved Human Hepatocytes

HepatoSure® HEPATOSURE®

HepatoSure® is a 100-donor pool of cryopreserved human hepatocytes. The largest pool on the market, HepatoSure® provides the best value when it comes to consistency of data reproducibility and the ability to produce assured minimum yields (AMY). HepatoSure® pushes the envelope to deliver higher quality, more consistency and a better overall value than any other pooled hepatocyte product available.

100 donors • Extensive Characterization Data • Reproducible

CryostaX® CryostaX®

Gain predictable and accurate results from pooled hepatocytes with CryostaX®. Our unique approach measures every pool's characterization before and after pooling for a double measure of quality control. Our patented single-freeze process provides the highest enzymatic activity possible by minimizing the additional cryoinjury caused by a second freeze required by conventional pooling methods. CryostaX® allows for completely customized pools, tailored to your specific needs based on a wide variety of criteria, at no additional charge.

10, 20 or custom donor pools • Customizable • Single-Freeze

For more information on both HepatoSure® and CryostaX®, please ask your account manager for the product specific flyer

Immortalized Human Hepatocytes

In order to address the unpredictable availability, limited supply and varying performance of fresh human hepatocytes, Sekisui XenoTech offers ready-to-use cell lines that are proven to perform well for many *in vitro* drug development applications, such as evaluating the induction of major cytochrome P450s (CYPs), UGTs and P-gps, hepatotoxicity assessment, and lysosomal sequestration / trapping.

These Fa2N-4 immortalized human hepatocytes retain near-normal morphology and function in culture, and allow you to compare results using hepatocytes from the same donor over multiple years and studies.

Fresh Human Hepatocytes

Plates

Freshly plated human hepatocytes can be used to perform experiments where an intact cellular system is required. Intact, viable hepatocytes contain the major hepatic drug-metabolizing enzymes as well as the co-factors required to study Phase I and II reactions. Plated hepatocytes respond to prototypical enzyme inducers in a predictable manner and are useful for evaluating the enzyme-inducing potential of drug candidates as well as conducting clearance and toxicity studies.

Each order of fresh human hepatocytes is evaluated by experienced analysts to ensure good cell morphology and confluency. The product is accompanied by a datasheet that contains donor demographics and a photomicrograph of the culture immediately prior to shipment. Finally, we ensure quality throughout the culture period by performing in-house induction analysis on each individual donor. These data are provided to you within one week of shipment.

Plate Formats Available: (*with and without collagen*)

- 6-well plate
- 12-well plate
- 24-well plate
- 48-well plate
- 96-well plate

Characterization Provided

Enzyme	Prototypical Inducer	Marker Substrate Reaction
CYP1A2	Omeprazole (50 μ M)	Phenacetin O-dealkylation
CYP2B6	Phenobarbital (750 μ M)	Bupropion hydroxylation
CYP3A4	Rifampin (10 μ M)	Midazolam 1'-hydroxylation

- Isolation viability

Suspensions

Fresh suspended human hepatocytes are useful for short-term drug metabolism studies and are also suitable for hepatic uptake studies.

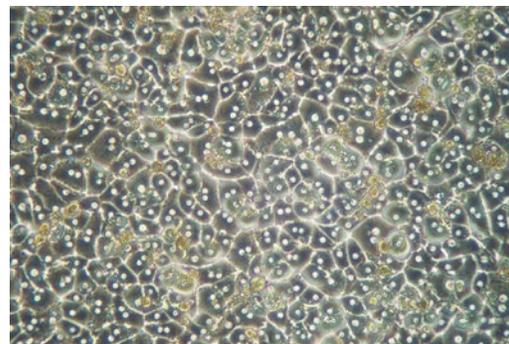
Each order of fresh suspended human hepatocytes is evaluated by experienced analysts to ensure a large yield of cells with a high viability. The product is accompanied by a datasheet that contains donor demographics and cell viability of the suspension immediately prior to shipment. Finally, we characterize each donor for Phase I and II activity and these data are provided to you within one week of shipment.

- Available per million cells (10 million cells minimum)

Characterization Provided

Marker Substrate Reaction

- 7-Ethoxycoumarin O-dealkylation
- 7-Hydroxycoumarin glucuronidation
- 7-Hydroxycoumarin sulfonation



Representative lot of fresh human hepatocytes

Hepatocyte Media

OptiThaw Hepatocyte Kit (K8000 & K8100) **OptiTHAW**
 Sekisui XenoTech's **OptiThaw** hepatocyte kit contains a nutrient-rich media used in thawing and isolating cryopreserved cells. The **OptiThaw** kit makes it easy to achieve maximum cell yield and viability for each preparation. The kit includes cell culture media optimized for thawing cryopreserved hepatocytes plus our **OptiCount** solution for determining cell yield and viability counts.

OptiPlate Hepatocyte Media (K8200) **OptiPLATE**
 XenoTech's **OptiPlate** media is used when plating attachable and inducible cryopreserved human, dog, monkey, mouse, rat, etc. hepatocytes. It is necessary to re-suspend the cell pellet in **OptiPlate** hepatocyte media before seeding the cells onto culture dishes. Plateable cells resuspended in this media attach to most collagen-coated surfaces.

OptiCulture Hepatocyte Media (K8300) **OptiCULTURE**
 Sekisui XenoTech's **OptiCulture** hepatocyte media is recommended for maintaining attachment of cryopreserved human, dog, monkey, mouse, rat, etc. cultured hepatocytes, as well as fresh plated hepatocytes. This media is recommended for feeding and dosing of cultured hepatocytes.

OptiIncubate Hepatocyte Media (K8400) **OptiINCUBATE**
 XenoTech's **OptiIncubate** hepatocyte media is recommended for both fresh and cryopreserved hepatocyte suspension and plated incubations.

OptiMatrix Hepatocyte Overlay (K8600-50) **OptiMATRIX**
 Sekisui XenoTech's **OptiMatrix** increases confluency, preserves viability, structure and appearance, assists network formation, and improves excretory function when plating hepatocytes.

Order these products online at
www.xenotech.com or contact
 a customer service representative
 at **913.438.7450**