

# An All-Human Hepatic Culture System for Drug Development Applications

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jove.com/video/65992

## Materials

Name	Company	Catalog Number	Comments
0.2 µm PES filter unit	Thermo Fisher Scientific	565-0020	User preference
15 mL or 50 mL conical tubes	Thermo Fisher Scientific	352196 or 352070	User preference
Alexa Fluor 555, goat anti-rabbit	Thermo Fisher Scientific	A-21428	Other secondary antibodies can work
Anti-Cytokeratin 18 antibody	abcam	ab24561	Necessary using same dilution
AOPI	Nexcelom	CS2-0106-5mL	Used for Cellometer counting
Biosafety cabinet	Labconoco	3460801	User preference
Black-walled, clear bottom, 96-well plate	Thermo Fisher Scientific	165305	User preference
Centrifuge	Thermo Fisher Scientific	Sorvall X4R	Capable of speeds up to 400 x g
Collagen coated plate, 24-well	Greiner Bio-One	662950	Rat tail collagen coating
Counting slides	Nexcelom	CHT4-SD100-002	Used for Cellometer counting
Culture medium	LifeNet Health	MED-TCCM	
Culture supplement	LifeNet Health	MED-TCSC	
DAPI	Thermo Fisher Scientific	00-4959-52	Contains mounting medium
DPBS (-Ca, -Mg)	Thermo Fisher Scientific	14190250	User preference
Feeder cell supplement	LifeNet Health	MED-TCSA	
Feeder cell thawing medium	LifeNet Health	MED-FCTM	
Fluorescent microscope	Zeiss	AxioObserver Z1	Equipped with user specific filters
Hepatocyte thawing medium	LifeNet Health	MED-HHTM4C-50ML	
Human albumin ELISA kit	abcam	ab108788	Necessary if using same dilution
Human feeder cells	LifeNet Health	PHFC24	
Humidified incubator	VWR	97025-842	Capable of 5% CO <sub>2</sub>
IC Fixation buffer	Thermo Fisher Scientific	00-8222-49	Paraformaldehyde based, 10% formalin can also be used
ImageJ	National Insitute of Health	Version 1.52a	1.52a or higher
Inverted phase contrast microscope	Olympus	CK40-F100	User preference
Microcentrifuge tubes	VWR	20170-022	User preference

Micropipettes (various sizes)	USA Scientific	ErgoOne	User preference
Permeabilization buffer (10x)	Thermo Fisher Scientific	00-8333-56	Other permeabilization buffers can work
Plate reader	BMG Labtech	CLARIOstar	Capable of reading absorbance 450-640 nm
Plating medium	LifeNet Health	MED-TCPM	
Plating supplement	LifeNet Health	MED-TCSB	
Primary human hepatocytes	LifeNet Health	various	Catalog number may vary based on lot number
Secondary antibody	Thermo Fisher Scientific	A-21428	User preference
Serological pipet controller	Gilson	F110120	User preference
Storage bottle 100–500 mL	VWR	76311-770	User preference
Urea Nitrogen (BUN) Test	Stanbio	0580-250	
Water bath	PolyScience	WBE05	Capable for use at 37 °C