

Materials List for:

"Liver-on-a-Chip" Cultures of Primary Hepatocytes and Kupffer Cells for Hepatitis B Virus Infection

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Materials

Name	Company	Catalog Number	Comments
Reagents			
William's E Medium, no phenol red	GIBCO	A12176-01	
Hepatocyte Thaw Medium	GIBCO	CM7500	
Primary Hepatocyte Thawing and Plating Supplements	GIBCO	CM3000	
Primary Hepatocyte Maintenance Supplements	GIBCO	CM4000	
DMEM/F-12	GIBCO	11320-033	
Advanced DMEM	GIBCO	12491023	
DPBS, no calcium, no magnesium	GIBCO	14190-144	
MEM Non-Essential Amino Acids (NEAA) 100x	GIBCO	11140050	
Penicillin-Streptomycin (10,000 U/mL)	GIBCO	15140-122	
Fetal Bovine Serum, USA origin, Heat Inactivated, sterile-filtered, suitable for cell culture	SIGMA	12106C	
Hydrocortisone	SIGMA	H0888	
Trypan blue	Merck	T8154	
Collagen from calf skin	Merck	C9791	
G418	SIGMA	G418-RO	
Tetracycline	SIGMA	T3258	
Polyethylene glycol 8000	SIGMA	P2139	
Sucrose	SIGMA	SO389	
Sodium carbonate anhydrous	SIGMA	451614-25G	
Sodium bicarbonate	SIGMA	S5761	
Sodium azide	SIGMA	S2002-5G	
Sulfuric acid, 99.999%	SIGMA	339741	
4% Paraformaldehyde	SIGMA	252549	
Triton-X 100	SIGMA	X100	
Tween 20	SIGMA	P1379	
DAPI	SIGMA	D9564	
Albumin (human)	SIGMA	A9731	
Fisher BioReagent Bovine Serum Albumin, Fraction V, Heat Shock Treated	Fisher Scientific	BP9701-100	
ProLong Gold Antifade Mountant	Invitrogen	P36930	

TaqMan Universal Master Mix II, no UNG	Applied Biosystems	4440040	
SYBR Select Master Mix	Applied Biosystems	4472903	
Lipopolysaccharide from <i>Escherichia coli</i> K12	InvivoGen	ttrl-eklps	
Name	Company	Catalog Number	Comments
Kits/Consumables			
Sterile membrane	CN Bio innovations	LC-SC	
LiverChip Perfusion cell culture plate	CN Bio innovations	LC12	
LiverChip culture plate lid	CN Bio innovations	LC-SC	
Sterile round filter paper	CN Bio innovations	LC-SC	
Cell attachment scaffold	CN Bio innovations	LC-SC	
Retaining ring	CN Bio innovations	LC-SC	
Sterile plunger	CN Bio innovations	LC-ST	
Dneasy blood & tissue kit	Qiagen	69506	
Rneasy mini kit	Qiagen	74106	
Human Magnetic Luminex assay	R&D Systems		
1-Step Ultra TMB-ELISA Substrate Solution	ThermoFisher Scientific	34028	
High Capacity cDNA Reverse Transcription Kit	ThermoFisher Scientific	4368814	
QIAamp Viral RNA Mini Accessory Set	Qiagen	1048147	Containing RNA carrier
Millicell HY 5-layer cell culture flask, T-1000, sterile	Millipore (Merck)	PFHYS1008	
MicroAmp Optical 384-Well Reaction Plate with Barcode	Life technologies	4309849	
MicroAmp Optical Adhesive Film	Life technologies	4311971	
Clear Flat-Bottom Immuno Nonsterile 96-Well Plates	ThermoFisher Scientific	442404	
Sealing Tape for 96-Well Plates	ThermoFisher Scientific	15036	
Nalgene Rapid-Flow Sterile Disposable Bottle Top Filters with PES Membrane	ThermoFisher Scientific	295-3345	
Fisherbrand Microscopic Slides with Ground Edges, Twin Frost	Fisher Scientific	FB58628	
Tube, Thinwall, Ultra-Clear, 38.5 mL, 25 x 89 mm	Beckman Coulter	344058	
Name	Company	Catalog Number	Comments
Primary cells / Cell lines			
Human Plateable Hepatocytes, Transporter Qualified	Thermo Fisher Scientific	HMCPTS	
Cryopreserved Human Kupffer Cells	Thermo Fisher Scientific	HUKCCS	
HepDE19 cell line	Haitao Guo (Indiana University, IN, USA)		
Name	Company	Catalog Number	Comments
Primers/Probes/Standards			
HBV DNA forward primer	Invitrogen		5'-GTGTCTGCGGCGTTTTATCA-3'

HBV DNA reverse primer	Invitrogen		5'-GACAAACGGGCAACATACCTT-3'
HBV DNA probe	Invitrogen		5'FAM-CCTCTKCATCCTGCTGCTATGCCCTCATC-3'
pgRNA forward primer	Invitrogen		5'-GAGTGTGGATTGCACTCC-3'
pgRNA reverse primer	Invitrogen		5'-GAGGCGAGGGAGTTCTTCT-3'
RPS11 forward primer	Invitrogen		5'-GCCGAGACTATCTGCACTAC-3'
RPS11 reverse primer	Invitrogen		5'-ATGTCCAGCCTCAGAACTTC-3'
pCMV-HBV	Professor Christoph Seeger (Fox Chase Cancer Centre, PA, USA)		
Name	Company	Catalog Number	Comments
Antibodies			
Anti-Hepatitis B virus core antigen IgG fraction (polyclonal)	DAKO	discontinued	Lot 10102505
Human Albumin Antibody, A80-129A	Bethyl Laboratories. inc	A80-129A	
Human Albumin cross-adsorbed Antibody, A80-229P	Bethyl Laboratories. inc	A80-229P	
Goat anti-Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 594	ThermoFisher Scientific	# A-11072	Lot 1431810
Name	Company	Catalog Number	Comments
Equipment			
LiverChip Vacuum pump	CN Bio innovations	LC-PN	
LiverChip Pneumatic Hookup	CN Bio innovations	LC-PN	
LiverChip platform	CN Bio innovations	LC-PN	
LiverChip plate washing dock	CN Bio innovations		
Autoclavable metal forceps	VWR	232-0106	
Vortex Genie 2	Scientific industries	SKU: SI-0236	
Optima XPN-80 Ultracentrifuge	Beckman Coulter	A95765	
Heraeus Multifuge X3R Centrifuge	Thermo Scientific	75004500	
SAM-12 Medical Suction High Vacuum High Flow	MGE worldwide	SAM12/01010101	
NUAIRE 5800 SERIES incubator	NUAIRE	NU-5841	
Automated precision torque	CN Bio innovations		
Manual torque	CN Bio innovations		
LiverChip compressor	CN Bio innovations		
Luminex LX-200 Instrument with xPONENT 3.1	Luminex		
Millipore Hand-Held Magnetic Separator Block	ThermoFisher Scientific	Millipore™ 40-285	
FluoStar Optima Plate Reader	BMG Labtech		
KOLVER Precision electric screwdrivers	VTECH ltd	FAB10RE/FR	
KOLVER Power supply	VTECH ltd	EDU1FR	
BAMBI VTS75D	Air Equipment	Discontinued	
Integra Vacuboy	INTEGRA		

ViiA 7 Real-Time PCR System with 384-Well Block	ThermoFisher Scientific	4453536	
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