

Materials List for:

Efficient and Scalable Directed Differentiation of Clinically Compatible Corneal Limbal Epithelial Stem Cells from Human Pluripotent Stem Cells

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Materials

Name	Company	Catalog Number	Comments
Material/Reagent			
1x DPBS containing Ca ²⁺ and Mg ²⁺	Gibco	#14040-091	
1x DPBS without Ca ₂ ⁺ and Mg ₂ ⁺	Lonza	#17-512F/12	
100 mm cell culture dish	Corning CellBIND	#3296	Culture vessel format for adherent hPSC-LESC differentiation
12-well plate	Corning CellBIND	#3336	Culture vessel format for IF samples
24-well plate	Corning CellBIND	#3337	Culture vessel format for IF samples
2-mercaptoethanol	Gibco	#31350-010	
6-well plate, Ultra-Low attachment	Corning Costar	#3471	Culture vessel format for induction in suspension culture
Alexa Fluor 488 anti-mouse Ig	ThermoFisher Scientific	#A-21202	Secondary antibody for IF
Alexa Fluor 488 anti-rabbit Ig	ThermoFisher Scientific	#A-21206	Secondary antibody for IF
Alexa Fluor 568 anti-goat Ig	ThermoFisher Scientific	#A-11057	Secondary antibody for IF
Alexa Fluor 568 anti-mouse Ig	ThermoFisher Scientific	#A-10037	Secondary antibody for IF
Basic fibroblast growth factor (bFGF, human)	PeptoTech Inc.	#AF-100-18B	Animal-Free Recombinant Human FGF-basic (154 a.a.)
BD Cytotfix/Cytoperm Fixation/Permeabilization Solution	BD Biosciences	#554722	Fixation and permeabilization solution for flow cytometry
BD Perm/Wash Buffer	BD Biosciences	#554723	Washing buffer for flow cytometry
Blebbistatin	Sigma-Aldrich	#B0560	
Bone morphogenetic protein 4 (BMP-4)	PeptoTech Inc.	#120-05A	
Bovine serum albumin (BSA)	Sigma-Aldrich	#A8022-100G	
Cytokeratin 12 antibody	Santa Cruz Biotechnology	#SC-17099	Primary antibody for IF
Cytokeratin 14 antibody	R&D Systems	#MAB3164	Primary antibody for IF
Cytokeratin 15 antibody	ThermoFisher Scientific	#MS-1068-P	Primary antibody for IF
CnT-30	CELLnTEC Advanced Cell Systems AG	#Cnt-30	Culture medium for adherent hPSC-LESC differentiation
Collagen type IV (human)	Sigma-Aldrich	#C5533	Human placental collagen type IV
CoolCell LX Freezing Container	Sigma-Aldrich	#BCS-405	
CryoPure tubes	Sarsted	#72.380	1.6 mL cryotube for hPSC-LESC cryopreservation

Defined Trypsin Inhibitor	Gibco	#R-007-100	
Essential 8 Flex Medium Kit	Thermo Fisher Scientific	#A2858501	
GlutaMAX	Gibco	#35050061	
Laminin 521	Biolamina	#Ln521	Human recombinant laminin 521
Δ Np63 α antibody	BioCare Medical	#4892	Primary antibody for IF
OCT3/4 antibody	R&D Systems	#AF1759	Primary antibody for IF
p63 α antibody	Cell Signaling Technology	#ACI3066A	Primary antibody for IF
p63- α (D2K8X) XP Rabbit mAb (PE Conjugate)	Cell Signaling Technology	#56687	p63- α PE-conjugated antibody for flow cytometry
PAX6 antibody	Sigma-Aldrich	#HPA030775	Primary antibody for IF
Penicillin/Streptomycin	Lonza	#17-602E	
Paraformaldehyde (PFA)	Sigma-Aldrich	#158127	Cell fixative for IF
ProLong Gold Antifade Mountant with DAPI	Thermo Fisher Scientific	#P36931	DAPI mountant for hard mounting for IF
PSC Cryopreservation Kit	Thermo Fisher Scientific	#A2644601	
TrypLE Select Enzyme	Gibco	#12563-011	
KnockOut Dulbecco's modified Eagle's medium	Gibco	#10829018	
KnockOut SR XenoFree CTS	Gibco	#10828028	
MEM non-essential amino acids	Gibco	#11140050	
SB-505124	Sigma-Aldrich	#S4696	
Triton X-100	Sigma-Aldrich	#T8787	Permeabilization agent for IF
VectaShield	Vector Laboratories	#H-1200	DAPI mountant for liquid mounting for IF
Name	Company	Catalog Number	Comments
Equipment			
Cytocentrifuge, e.g. CellSpin II	Tharmac		
Flow cytometer, e.g. BD Accuri C6	BD Biosciences		
Fluorescence microscope, e.g. Olympus IX 51	Olympus		