

Materials List for

Optimized Protocol for Generating Functional Pancreatic Insulin-secreting Cells from Human Pluripotent Stem Cells

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Materials

Name	Company	Catalog Number	Comments
1.5 mL TubeOne Microcentrifuge Tube	Starlabs	S1615-5500	
6-well Cell culture plate	ThermoFisher Scientific	165218	
AggreWell 400 6-well plate	STEMCELL Technologies	34425	
Anti-Glucagon	Sigma-aldrich	G2654-100UL	
Anti-Insulin	Dako	A0564	
Anti-NKX6.1	Novus Biologicals	NBP1-49672SS	
Anti-PDX1	Abcam	ab84987	
Aphidicolin	Sigma-Aldrich	A4487	
B-27 Supplement (50X), serum free	Thermo Fisher Scientific	17504044	
Bovine Serum Albumin, fatty acid free	Sigma-Aldrich	A3803-100G	
Calcium chloride dihydrate	Sigma-Aldrich	C3306	
Calcium/Magnesium free D-PBS	Thermo Fisher Scientific	14190144	
Cyclopamine-KAAD	Calbiochem	239804	
D-(+)-Glucose, BioXtra	Sigma-Aldrich	G7528	
Disodium hydrogen phosphate, anhydrous	Sigma-Aldrich	94046-100ML-	
DMEM plus GlutaMAX	Thermo Fisher Scientific	10566016	For Washing Medium 2: DMEM plus GlutaMAX 1% PS.
DMEM/F-12 (Dulbecco's Modified Eagle Medium/Nutrient Mixture F-12)	Thermo Fisher Scientific	10565-018	
Epredil SuperFrost Plus Adhesion slides	Thermo Fisher Scientific	10149870	
Ethanol	VWR	20821.33	
Fetal Bovine Serum	Thermo Fisher Scientific	10270098	

Gamma-Secretase Inhibitor XX	Thermo Fisher Scientific	J64904	
Geltrex LDEV-Free Reduced Growth Factor Basement	Thermo Fisher Scientific	A1413302	Geltrex 1:1 into cold DMEM/F-12 medium to provide a final dilution of 1:100.
Goat Anti-Guinea pig, Alexa Fluor 555	Thermo Fisher Scientific	A-21435	
Goat Anti-Guinea pig, Alexa Fluor 647	Abcam	ab150187	
Goat anti-Mouse Secondary Antibody, Alexa Fluor 633	Thermo Fisher Scientific	A-21052	
Goat anti-Rabbit IgG Secondary Antibody, Alexa Fluor 568	Thermo Fisher Scientific	A-11011	
Heparin	Sigma-Aldrich	H3149	
HEPES buffer	Sigma-Aldrich	H3375-500G	
Hoechst 33342, Trihydrochloride	Thermo Fisher Scientific	H1399	
Human FGF-7 (KGF) Recombinant Protein	Thermo Fisher Scientific	PHG0094	
Hydrogen chloride	Sigma-Aldrich	295426	
ImmEdge Hydrophobic Barrier PAP Pen	Agar Scientific	AGG4582	
LDN193189	Sigma-Aldrich	SML0559-5MG	
Magnesium chloride hexahydrate	Sigma-Aldrich	M9272-500G	
OCT Compound 118 mL	Agar Scientific	AGR1180	
PBS Tablets, Phosphate Buffered Saline, Fisher BioReagents	Thermo Fisher Scientific	7647-14-5	
Penicillin-Streptomycin (PS)	Thermo Fisher Scientific,	15070-063	
Potassium chloride	Sigma-Aldrich	7447-40-7	
Recombinant Human EGF Protein	R&D Systems	236-EG-200	
Rectangular cover glasses, 22×50 mm	VWR	631-0137	
RepSox (Hydrochloride)	STEMCELL Technologies	72394	
RPMI 1640 Medium, GlutaMAX Supplement	Thermo Fisher Scientific	61870036	For Washing Medium 1: RPMI 1640 plus GlutaMAX 1% PS.
Shandon Immu-mount	Thermo Fisher Scientific	9990402	
Sodium bicarbonate	Sigma-Aldrich	S6014-500G	
Sodium chloride	Sigma-Aldrich	S3014	
Sodium dihydrogen phosphate anhydrous	Sigma-Aldrich	7558-80-7	
STEMdiff Endoderm	STEMCELL Technologies	5110	
StemFlex Medium	Thermo Fisher Scientific	A3349401	Thaw the StemFlex Supplement overnight at 4°C, transfer any residual liquid of the supplement bottle to StemFlex Basal Medium.
Stemolecule All-Trans Retinoic Acid	Reprocell	04-0021	
Thyroid Tormone 3 (T3)	Sigma-Aldrich	T6397	
Trypan Blue Solution, 0.4%	ThermoFisher Scientific	15250061	
TrypL Express Enzyme (1X)	Thermo Fisher Scientific	12604013	
TWEEN 20	Sigma-Aldrich	P2287-500ML	
Ultra-Low Adherent Plate for Suspension Culture	Thermo Fisher Scientific	38071	
UltraPure DNase/RNase-Free Distilled Water	Thermo Fisher Scientific	10977015	
Y-27632 (Dihydrochloride)	STEMCELL Technologies	72302	

Zinc Sulfate	Sigma-Aldrich	Z4750	
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