

Materials List for:

Genome Editing and Directed Differentiation of hPSCs for Interrogating Lineage Determinants in Human Pancreatic Development

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Materials

Name	Company	Catalog Number	Comments
Chemically defined medium (E8)	Thermo Fisher Scientific	A1517001	Essential 8 basal medium and Essential 8 supplement included
Truncated recombinant human form of vitronectin	Thermo Fisher Scientific	A14700	
ROCK inhibitor Y-27632	Selleck Chemicals	S1049	
Dissociation reagent (TrypLE Select enzyme)	Thermo Fisher Scientific	12563029	1x, animal origin free, recombinant enzyme
G418 Sulfate	Thermo Fisher Scientific	10131035	Geneticin Selective Antibiotic
Puromycin dihydrochloride	Sigma-Aldrich	P8833	Puromycin Selective Antibiotic
DNA Polymerase (Herculase II Fusion)	Agilent Technologies	600679	PCR kit
MEGAscript T7 Transcription kit	Thermo Fisher Scientific	AM1354	
MEGAclear Transcription Clean-Up Kit	Thermo Fisher Scientific	AM1908	
Doxycycline hyclate	Sigma-Aldrich	D9891	
Opti-MEM medium	Thermo Fisher Scientific	31985062	Reduced Serum Medium
Lipofectamine RNAiMAX Transfection Reagent	Thermo Fisher Scientific	13778150	
DNeasy Blood & Tissue Kit	QIAGEN	69504	Genomic DNA extraction kit
Proteinase K	Roche	3115879001	
MCDB 131 medium	Thermo Fisher Scientific	10372-019	
BLAR medium	Thermo Fisher Scientific		Custom-made with a published formulation (Rezania <i>et al.</i> , 2014)
L-glutamine supplement (GlutaMAX)	Thermo Fisher Scientific	35050061	
NaHCO ₃	Thermo Fisher Scientific	144-55-8	
Glucose	Sigma-Aldrich	G8769	
BSA	LAMPIRE Biological Laboratories	7500855	Fatty acid free
GDF8	PeproTech	120-00	
CHIR-99021	Stemgent	04-0004	GSK-3 inhibitor
L-Ascorbic acid	Sigma-Aldrich	A4544	Vitamin C
FGF7	R&D Systems	251-KG	
SANT1	Tocris Bioscience	1974	Hedgehog inhibitor
RA	Sigma-Aldrich	R2625	Retinoic acid
LDN	Stemgent	04-0019	BMP inhibitor

IWP-2	Tocris Bioscience	3533	Wnt antagonist
ITS-X	Thermo Fisher Scientific	51500-056	
TPB	EMD Millipore	565740-1MG	PKC activator
3,3',5-Triiodo-L-thyronine (T3)	Sigma-Aldrich	T6397	
ALK5i II	Enzo Life Sciences	ALX-270-445	ALK5 inhibitor II
ZnSO ₄	Sigma-Aldrich	Z0251	
Heparin	Sigma-Aldrich	H3149	
GSiXX	EMD Millipore	565789	Gamma secretase inhibitor XX, NOTCH signaling inhibitor
N-Cys (N-acetyl cysteine)	Sigma-Aldrich	A9165	
Trolox	EMD Millipore	648471	Vitamin E analogue
R428	Selleck Chemicals	S2841	AXL receptor tyrosine kinase inhibitor
24 mm Transwell with insert	Corning Life Sciences	3414	
Gene Pulser Xcell Electroporation System	Bio-Rad	1652660	
0.4 cm Electroporation Cuvettes	Bio-Rad	1652081	
AAVS1-TALEN-L	Addgene	59025	
AAVS1-TALEN-R	Addgene	59026	
AAVS1-Neo-M2rtTA	Addgene	60843	
AAVS1-Puro-iCas9	Addgene	58409	
T7 Endonuclease I	NEB	M0302L	
Buffer 2	NEB	B7002S	NEBuffer 2
Long oligonucleotide	Eton Bioscience or IDT		
SOX17 antibody	R&D Systems	AF1924	1:500
FOXA2 antibody	Millipore	07-633	1:100
CXCR4-APC antibody	R&D Systems	FAB170A	1:25
PDX1 antibody	R&D Systems	AF2419	1:500
NKX6.1 antibody	DSHB	F55A12	1:500
NKX2.2 antibody	DSHB	74.5A5	1:100
NEUROD1 antibody	Santa Cruz Biotechnology	sc-1084	1:100
Insulin antibody	Dako	A0564	1:2,000
C-peptide antibody	DSHB	GN-ID4-c	1:2,000
Glucagon antibody	Sigma-Aldrich	G2654	1:1,000