

Materials List for:

Generation of iPSC-derived Human Brain Organoids to Model Early Neurodevelopmental Disorders

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Materials

Name	Company	Catalog Number	Comments
Anti-mouse 488	Invitrogen	A-11001	Goat anti-Mouse IgG (H+L) Secondary Antibody, Alexa Fluor 488
Anti-rabbit 647	Invitrogen	A-21245	Goat anti-Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 647
Arl13b	proteintech	17711-1-AP	ARL13B rabbit polyclonal antibody
CELLSPIN system	IBS Integra Bioscience	183001	
DAPI	Sigma-Aldrich, US	32670	4',6-Diamidino-2-phenylindole dihydrochloride; multiple suppliers
DMEM/F-12	Gibco, US	31331093	Dulbecco's Modified Eagle Medium: Nutrient Mixture F-12
Dorsomorphin	Sigma-Aldrich, US	P5499	Compound C; multiple suppliers
Embedding medium	AppliChem	A9011, 0100	Mowiol; embedding medium; multiple suppliers
Engelbreth-Holm-Swarm (EHS) matrix	Corning	354277	Matrigel hESC-qualified matrix; important: hESC qualified
Fish gelatin	Sigma-Aldrich, US	G7765-250ML	Gelatin from cold water fish skin; multiple suppliers; autoclave after adding to PBS to dissolve and sterilize, store at 4 °C
Glycine	AppliChem	A1067,1000	Glycine for molecular biology; multiple suppliers
Inoculation loop with needle, disposable (1 µL)	Sigma Aldrich, US	BR452201-1000EA	multiple suppliers
Insulin	Sigma-Aldrich, US	I3536-100MG	multiple suppliers
L-glutamine	Gibco, US	25030081	L-glutamine (200 mM)
Medium A	Stem cell technologies	#05850	mTeSR1 (hiPSC medium)
Medium B	Stem cell technologies	#05835	Neural induction medium (NIM); neural differentiation medium
Medium C	Gibco, US	21103049	Neural Basal Medium
MEM	Gibco, US	11140035	MEM non-essential amino acids solution (100x)
MycoAlert Mycoplasma Detection Kit	Lonza, Switzerland	#LT07-218	Mycoplasma detection kit; multiple suppliers
Nestin	Novus biologicals	NBP1-92717	Nestin mouse monoclonal antibody (4D11)
Paraformaldehyde (PFA)	AppliChem	A3813, 0500	4% in PBS, store solution at -20 °C; caution: wear skin and eye protection and work under hood

PBS tablets	Gibco, US	18912014	See manufacturer's instructions; multiple suppliers
Penicillin-Streptomycin (10.000 U/ mL)	Gibco, US	15140122	Multiple suppliers
Poly-L-lysine solution (PLL)	Sigma-Aldrich, US	P8920-100ML	Multiple suppliers
pVim	MBL	D076-3S	Phospho-Vimentin (Ser55) mAb
Reagent A	Stem cell technologies	# 05872	Note to Protocol 1.1.1.2; ReLSR (Enzyme-free human ES and iPS cell selection and passaging reagent); please follow manufacturer's protocol; alternative products from multiple suppliers available
Reagent B	Sigma-Aldrich, US	A6964-100ML	Accutase solution is an enzymatic solution for single cell dissociation; multiple suppliers; protocol 1.1.2 "enzymatic cell dissociation solution"
Research Cryostat Leica CM3050 S	Leica biosystems	CM3050 S	Multiple suppliers
SB431542	Selleckchem.com	S1067	Multiple suppliers
Spinner flask 250 mL	IBS Integra Bioscience	182026	
Sucrose	AppliChem	A4734, 1000	Multiple suppliers
Superfrost ultra plus microscope slides	Thermo scientific, US	J3800AMNZ	Slides should be labeled with a "+" and positively charged
Supplement 1	Gibco, US	17502048	N-2 supplement (100x)
Supplement 2 w/o Vitamin A	Gibco, US	12587010	B-27 supplement (50x), minus vitamin A; multiple suppliers
Tissue-Tek Cryomold	Sakura, NL	4565	Multiple suppliers
Tissue-Tek O.C.T. compound	Sakura, NL	4583	Multiple suppliers
Triton X-100	AppliChem	A1388,0500	Multiple suppliers
TUJ1	Sigma-Aldrich, US	T2200	β -Tubulin III (rabbit polyclonal)
TUNEL assay	Promega, US	G3250	DeadEnd Fluorometric TUNEL system; multiple suppliers
Tween 20 for molecular biology	AppliChem	A4974,0500	Multiple suppliers
waterproof sheet	BEMIS company, inc.	PM996	Parafilm "M"; multiple suppliers
Y-27632	Selleckchem.com	S1049	ROCK-inhibitor (Y-27632 2HCL); multiple suppliers
β -mercaptoethanol	Gibco, US	31350010	2-mercaptoethanol (50 mM); multiple suppliers