

Materials List for

Robust and Highly Reproducible Generation of Cortical Brain Organoids for Modelling Brain Neuronal Senescence *In Vitro*

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jove.com/video/63714

Materials

Name	Company	Catalog Number	Comments
16% Formaldehyde (W/V) Methanol-free	Thermo Fisher Scientific	28908	4% of PFA are diluted in 1x PBS
2-Mercaptoethanol 50 mL(1000x)	Life Technologies Australia (TFS)	21985023	Used in NM and DM media
B 27 Supplement 10 mL	Life Technologies Australia (TFS)	17504044	Used in NM and DM media
CKX53 microscope with SC50 camera	Olympus		
Corning Costar 6 well cell culture plates	Sigma Aldrich Pty Ltd	CLS3516-50EA	
Dispase II powder	Thermo Fisher Scientific	17105041	Powder is dissolve in HBSS, filtered through 0.22 µm filter, aliquote at 10 mL and store at -20 °C
DMEM Nutrient Mix F12 10x 500 mL (DMEM/F-12)	Thermofisher	11320082	Used in NM and DM media
DMSO Dimethyl Sulfoxide	Sigma Aldrich Pty Ltd	D2650-100ML	
Dulbecco's Phosphate Buffered Saline	Sigma Aldrich Pty Ltd	D1408-500ML	
Falcon Matrigel hESC-qualified Matrix	In Vitro Technologies Pty Ltd	FAL354277	Make aliquotes of 100 µL and stored at -20 °C
GlutaMAX Supplement 100x	Thermo Fisher Scientific	35050061	Used in NM and DM media
Hanks Balanced Salt Solution	Sigma Aldrich Pty Ltd	H8264	
Human induced pluripotent stem cells (EU79)			In-house reprogrammed from skin fibroblast
Human induced pluripotent stem cells (G22)	Genea Biocells		Obtained from Genea Biocells (San Diego, United States)
Human induced pluripotent stem cells (WTC)			Gift from Professor Bruce Conklin
InSolution TGF-B RI Kinase Inhibitor VI, SB431542	Merck	US1616464-5MG	
Insulin Solution Human Recombinant	Sigma Aldrich Pty Ltd	I9278	Used in NM and DM media

LDN193189 Dihydrochloride	Sigma Aldrich Pty Ltd	SML0559-5MG	Used during differentiation
MEM Non-Essential Amino Acids Solution (100x)	Thermo Fisher Scientific	11140050	Used in NM and DM media
mTeSR Plus	STEMCELL TECHNOLOGIES	100-0276	Used to maintain hiPSC colonies prior to differentiation with NM media
N2 Supplement 5 mL (100x)	Life Technologies Australia Pty Ltd	17502048	Used in NM and DM media
Neurobasal Medium	Thermo Fisher Scientific	21103049	Used in DM media
OCT Embedding Compound Sakura Clear (118 mL/Bottle)	Tissue Tek	4583	
Parafilm M Roll Size 4 in. x 125 Ft	Sigma Aldrich Pty Ltd	P7793	
Penicillin-Streptomycin (10,000 U/ mL)	Thermo Fisher Scientific	15140122	Used in NM and DM media
Potassium Hexacyanoferrate (II) Trihydrate	Sigma Aldrich Pty Ltd	CP1087	
Potassium hexacyanoferrate(III)	Sigma Aldrich Pty Ltd	455946	
Prolong Glass Antifade Mountant	Life Technologies Australia (TFS)	P36980	
Recombinant Human FGF basic	R&D Systems	233-FB-01M	Aliquots are made at 20 µg/mL and stored at -20 °C
SB431542	Tocris	1614	Used during differentiation
Sucrose	Sigma Aldrich Pty Ltd	PHR1001-1G	30% of sucrose are diluted in 1x PBS
Ultra-Low attachment multiwell plates , 24 well plate, polystyrene	Sigma Aldrich Pty Ltd	CLS3473-24EA	
X-GAL EA	Life Technologies Australia (TFS)	R0404	Make aliquotes of 20 mg/mL and storde at -80 °C