

Materials List for:

An Optogenetic Approach for Assessing Formation of Neuronal Connections in a Co-culture System

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URL: <https://www.jove.com/video/52408>

DOI: [doi:10.3791/52408](https://doi.org/10.3791/52408)

Materials

Name	Company	Catalog Number	Comments
Neurocult Proliferation Kit (Mouse)	STEMCELL Technologies	5702	Contains NSC Basal Medium and NSC Proliferation Supplement
Epi5 Episomal iPSC Reprogramming Kit	Invitrogen	A15960	
DMEM/F12	Lonza	12719F	
Matrigel	BD Biosciences	354277	
Neurobasal medium	Invitrogen	21103049	
MEM without glutamine	Invitrogen	11090081	
N2	Invitrogen	17502048	
B27	Invitrogen	17504044	
L-glutamine	Invitrogen	25030081	
GlutaMAX supplement	Invitrogen	35050061	
PenStrep	Invitrogen	15140122	
BSA	Sigma	A7906	
Human LIF	Invitrogen	PHC9484	
CHIR99021	Miltenyi Biotech	130103926	
SB431542	Sigma	S4317	
Compound E	Merck Millipore	565790	
EGF	Merck Millipore	324856	
FGF2	R&D Systems	233FB025	
Research Grade FBS	Thermo Scientific	SV30160.03	For astrocyte differentiation medium
Defined FBS	Thermo Scientific	SH30070.03	For primary neuron medium
PBS	Thermo Scientific	SH30028.02	
Glucose	Sigma	G8270	For primary neuron medium
Sucrose	Sigma	S0389	
Heparin	EMD Millipore	375095	
Papain	Worthington	3126	
HBSS	Invitrogen	14175095	
DNase I	Roche	10104159001	
Dispase II	STEMCELL Technologies	7923	
HEPES	Gibco	15630080	For harvesting brains
EBSS	Invitrogen	14155063	

L-Cysteine	Sigma	C7352	
Trypsin-EDTA	Invitrogen	25200056	
70 µm cell strainer	BD Biosciences	352350	
20 µm filter unit	Sartorius Stedim	16534K	
NaCl	Sigma	S7653	
KCl	Sigma	P5405	
NaHCO ₃	Sigma	S5761	
NaH ₂ PO ₄	Fluka	71505	
MgCl ₂	Sigma	M8266	
CaCl ₂	Sigma	C1016	
D(+)-Glucose	Sigma	G7520	For electrophysiological studies
K-gluconate	Sigma	P1847	
KOH	KANTO Chemical	3234400	
HEPES	Sigma	H3375	For electrophysiological studies
EGTA	Sigma	E3889	
Na ₂ ATP	Sigma	A7699	
Na ₃ GTP	Sigma	G8877	
Borosilicate glass capillaries	World precision instruments, Inc	1604323	
15 ml centrifuge tube	BD Biosciences	352096	
50 ml centrifuge tube	BD Biosciences	352070	
24-well plates	Corning	9761146	
6-well plates	Corning	720083	
T25 flasks	Corning	430641	
12 mm cover glasses	Marienfeld-Superior	111520	
AMAXA Rat Neuron Nucleofector Kit	Lonza	VPG1003	For electroporation of primary cortical neurons
Neon Transfection System	Invitrogen	MPK5000	For electroporation of human fibroblasts
Mini Analysis	Synaptosoft	Mini Analysis v.6	For measurement of PSCs
Normal Dermal Human Fibroblasts	PromoCell	C12300	
pLenti-Synapsin-hChR2(H134R)-EYFP-WPRE	Addgene	20945	
Mercury short-arc lamp	OSRAM	HBO 103 W/2	