

Materials List for:

Electrically Conductive Scaffold to Modulate and Deliver Stem Cells

Byeongtaek Oh¹, Alexa Levinson¹, Vivek Lam¹, Shang Song¹, Paul George^{1,2}

¹Department of Neurology and Neurological Sciences, Stanford University School of Medicine

²Stanford Stroke Center and Stanford University School of Medicine

Correspondence to: Paul George at pgeorge1@stanford.edu

URL: <https://www.jove.com/video/57367>

DOI: [doi:10.3791/57367](https://doi.org/10.3791/57367)

Materials

Name	Company	Catalog Number	Comments
FGF-Basic	Invitrogen	CTP0261	20 ng/mL for working media
Matrigel	Corning	cb40234a	1:200 dilution
LIF Protein, Recomb. Hum. (10 µg/mL)	EMD Millipore	LIF1010	10 ng/mL for working media
Sylgard 184 silicone 3.9 kg	Fisherbrand	NC0162601	
Hydrochloric acid	Fisherbrand	SA56-4	
Nitric Acid Concentrate (Certified) ACS, Fisher Chemical	Fisherbrand	SA95	
ITO Glass	Delta Technologies	CG-40IN-0115	
Sodium dodecylbenzenesulfonate	Sigma	289957-1KG	
Pyrrole	Sigma	131709-500ML	Protect pyrrole solution from light and room temperature
8 well glass slide chambers	Thermo Sci Nuc	125658	Detach the cell chamber and keep it under sterilized conditions
Flat-Surface Bracket, 3"x1"	McMaster-Carr	1030A4	
TWO PART SILVER PAINT 14G	Electron Microscopy Sciences	1264214	Mix two parts (1:1) in plastic plate
DPBS, 1x, with Ca and Mg, No Phenol Red	Genesee	25-508C	
AB2 ArunA Neural Cell Culture Media Kit	Aruna Biomedical	ABNS7013.2	
hNP1 Human Neural Progenitor Expansion Kit	Aruna Biomedical	hNP7013.1	
Noncontact Flow-Adjustment Valve, Nickel-Plated Brass, for 3/32" to 5/8" Tube OD	McMaster-Carr	5330K22	
Multimeter	Keysight	E3641A	
Waveform generator	Keysight	33210A-10MHz	
Pt meshes	Sigma-Aldrich	298107-425MG	Reference electrode with dimensions, 1x1 cm
LIVE/DEAD Viability/Cytotoxicity Kit, for mammalian cells	Thermo Fisher Scientific	L3224	
BDNF	Thermo Fisher Scientific	Hs02718934_s1	
THBS1	Thermo Fisher Scientific	Hs00962908_m1	
GAPDH	Thermo Fisher Scientific	Hs02758991_g1	
RNeasy Mini Kit (250)	Qiagen	74106	
QIAshredder (250)	Qiagen	79656	
RNase-Free DNase Set (50)	QIAGEN	79254	

iScript cDNA Synthesis Kit, 100 x 20 µL rxns	BIORAD	1708891	
TaqMan Gene Expression Master Mix	Thermo Fisher Scientific	4369510	
7-8 Week Old, male, RNU Rats	NCI-Frederick		
4-0 Ethicon Silk Suture	eSutures.com	683G	
Isoflurane	Henry Schein	29405	
V-1 Tabletop Laboratory Animal Anesthesia System	VetEquip	901806	
Surgicel Original Absorbable Hemostat	Ethicon	1952	
Lab Standard Stereotaxic Instrument, Rat	Stoelting	51600	
Kimberly-Clark Professional Safeskin Purple Nitrile Sterile Exam Gloves	Fisherbrand	19-063-130	
Sterile Drape	Medline	DYNJSD1092	
Thermo Scientific Shandon Stainless-Steel Scalpel Blade Handle, Holds No. 20-25 Blades	Fisherbrand	53-34	
Walter Stern Scalpel Blade Series 300	Fisherbrand	17-654-456	
QuantStudio 6 Flex Real-Time PCR System	Thermo Fisher Scientific	4484642	
Frazier Micro Dissecting Hook	Harvard Apparatus	52-2706	