

Fabrication of Magnetic Platforms for Micron-Scale Organization of Interconnected Neurons

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Materials

Name	Company	Catalog Number	Comments
16% Paraformaldehyde (formaldehyde) aqueous solution	ELECTRON MICROSCOPY SCIENCES	15710	
6-well cell culture plate	FALCON	353846	
96-well cell culture plate	SPL life sciences	30096	
Amphotericin B solution	Biological Industries	03-028-1B	
AZ 1514H photoresist	MicroChemicals GmbH		
AZ 351 B developer	MicroChemicals GmbH		
Bovine serum albumin (BSA)	Biological Industries	03-010-1B	
Cell and Tissue cultur flask	Biofil	TCF002250	75.0 cm ² 250 mL Vent cap, Non-treated
Cell culture dish	Greiner Bio-One	627-160	35 mm
Cell Proliferation Kit (XTT-based)	Biological Industries	20-300-1000	
Centrifuge tube	Biofil	CFT021500	50 mL
Co80Fe20 at% sputter target	ACI Alloys		99.95%
Collagen type I	Corning Inc.	354236	Rat Tail, concentration range 3-4 mg/mL
Confocal microscope	Leica		TCS SP5
Cy2-conjugated AffiniPure Donkey Anti-rabbit secondary antibody	Jackson ImmunoResearch Laboratories, Inc.	711-165-152	
DAPI fluoromount-G	SouthernBiotech	0100-20	
Disposable needle	KDL		23 G
Disposable syringe	Medispo	1160227640	10 mL
Donor horse serum	Biological Industries	04-124-1A	
ELISA reader	Merk Millipore		BioTek synergy 4 hybrid microplate reader
Ethanol 70%	ROMICAL LTD	19-009102-80	
Ethanol absolute (Dehydrated)	Biolab-chemicals	52505	
Fetal bovine serum (FBS)	Biological Industries	04-127-1A	
Fresh murine β -NGF	Peprotech	450-34	

GMW C-frame electromagnet .	Buckley systems LTD		3470, 45 mm
Hydrochloric acid 32%	DAEJUNG CHEMICAL & METALS	4170-4100	
ImageJ	US National Institutes of Health, Bethesda		NeuronJ plugin
Inductively coupled plasma (ICP)	Ametek Spectro		SPECTRO ARCOS ICP-OES, FHX22 MultiView plasma
Keithley source-measure	Keithley		2400
Keithley switching system	Keithley		3700
L-glutamine	Biological Industries	03-020-1B	
Light microscope	Leica		DMIL LED
Maskless photolithography	Heidelberg Inst.		MLA150
Microscope Slides	BAR-NAOR	BN1042000C	
Nitric acid 70%	Sigma-Aldrich	438073	
Normal donkey serum (NDS)	Sigma	D9663	
PBS 10x	hyclabs	BP507/1LD	
PC12 cell line	ATCC	CRL-1721	
Pd sputter target	ACI Alloys		99.95%
Penicillin-streptomycin nystatin solution	Biological Industries	03-032-1B	
PrestoBlue cell viability reagent	Molecular probes	A-13261	resazurin-based
Rabbit antibody to α -tubulin	Santa Cruz Biotechnology, Inc.		
RF magnetron sputtering system	Orion AJA Int.		Orion 8
RPMI 1640 with l-glutamine	Biological Industries	01-100-1A	
Sonication bath	KUDOS	SK3210HP	Frequency: 53 kHz. Ultrasonic power: 135 W
SQUID magnetometer	Quantum Design, CA		
Triton X-100	CHEM-IMPEX INTERNATIONAL	1279	non-ionic surfactant
XTT cell viability reagent			