

Materials List for:

Label-free Isolation and Enrichment of Cells Through Contactless Dielectrophoresis

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Materials

Name	Company	Catalog Number	Comments
Polydimethylsiloxane (PDMS)	Dow Corning, Midland, MI, USA	Sylgard 184	
Glass slides	The Microscope Depot	76079	2x3 inch-ground edges
Microbore PTFE Tubing	Cole-Parmer Instrument Co, Vernon Hills, IL, USA	EW-06417-31	Thin walled 20 gauge, 0.032"ID x 0.056"OD, 100 ft/roll
Luer-slip plastic syringes	National Scientific company	S7510-1	
Needle tip	Howard Electronic instruments	JG20-1.0	20 Gauge 1.0", ID=0.025" OD=0.036"
D(+)-Sucrose	Fisher Scientific, Fair Lawn, NJ	S3-500	
D(+)-glucose, reagent ACS, anhydrous	Acros Organics N.V., Fair Lawn, NJ	AC410955000	
RPMI-1640 Medium	Quality Biological Inc.	112-025-101	
Calcein AM, Molecular Probes	Invitrogen Corp. (life technologies), Carlsbad, CA, USA	C3100MP	excitation wavelength 488/ emission wavelength 516
Rhodamine B, O	Science Lab	SLR1465-100G	excitation wavelength 540/ emission wavelength 625
Phosphate buffered saline (10X)	Gbiosciences, St. Louis, MO	RC-147	
Leica, inverted light microscope	Leica Microsystems, Bannockburn, IL, USA	Leica DMI 6000B	
Leica DFC420, color camera	Leica Microsystems, Bannockburn, IL, USA	Leica DFC420	
Function generator	GW Instek, Taipei, Taiwan	GFG-3015	
Wideband power amplifier	Amp-Line Corp., Oakland Gardens, NY, USA	AL-50HF-A	
HFHV Output Transformer		AL-T50-V25/300-F100K-600K	
High voltage amplifier	Trek	Model 2205	
USB Modular Oscilloscope, 100 MHz	Agilent Technologies	U2701A	
Expanded Plasma Cleaner	Harrick Plasma	PDC-001/002 (115/230V)	air plasma
Scotch Magic tape	3M		any available width is sufficient
1.5 mm puncher	Harris Uni-Core	Z708836-25EA	
.25% Trypsin-EDTA	Invitrogen	25200-056	
FluoSpheres Sulfate Microspheres	Invitrogen	F8858	4.0 μm, red fluorescent (excitation wavelength 580/emission wavelength 605)
AZ 9260 photoresist	AZ Electronic Materials		
AZ 400 K developer	AZ Electronic Materials		

Tetramethylammonium hydroxide (TMAH) 25%			provided by Virginia Tech cleanroom
Teflon coating			applied using DRIE machine
Silicon wafer	University Wafer	452	100 mm diameter, 500 μ m thickness, one side polished (SSP)
Deep Reactive Ion Etching (DRIE)	Alcatrel	AMS SDE 100	