

Materials List for:

Bioparticle Microarrays for Chemotactic and Molecular Analysis of Human Neutrophil Swarming in vitro

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Materials

Name	Company	Catalog Number	Comments
"The Big Easy" EasySep Magnet	STEMCELL Technologies	18001	Magnet to use with neutrophil isolation kit
Cell Incubator	Okolab	777057437 / 77057343	Okolab cage incubator for temperature and CO2 control
EasySep Human Neutrophil Isolation Kit	STEMCELL Technologies	17957	Kit for immunomagnetic negative selection of human neutrophils
Eclipse Ti2	Nikon Instruments	MEA54010 / MEF55037	Inverted research microscope
Escherichia coli (K-12 strain) BioParticles Texas Red conjugate	Invitrogen	E2863	Bioparticle powder, dissolve in water prior to addition to Zetag® array
Harris Uni-Core 8-mm biopsy punch	Sigma Aldrich	Z708925	To cut PDMS stamps
HetaSep	STEMCELL Technologies	7906	Erythrocyte aggregation agent for separating buffy coat from red blood cells in fresh human blood
Hoechst 33342	Life Technologies	H3570	Nucleus fluorescent stain
Human L1000 Array	Raybiotech Inc.	AAH-BLG-1000-4	High density array to detect 1000 human proteins
Human Serum Albumin (HSA)	Sigma Aldrich	A5843	Low endotoxin HSA, to prepare 2 % solutions in IMDM for isolated neutrophils
Iscove's Modified Dulbeccos' Medium (IMDM)	Thermo Fisher Scientific	12440053	To resuspend isolated neutrophils
K2-EDTA tubes	Thermo Fisher Scientific	02-657-32	Tubes for blood collection
Low Reflective Chrome Photomask	Front Range Photomask	N/A	Dimensions 5" x 5" x 0.09" (L x W x D)
Microarray Scanner	Perkin Elmer	ASCNGX00	Fluorescence reader of protein patterned microdomains
Microscopy Image Analysis Software - Imaris	Bitplane	9.3.0	Software for automatic cell tracking analysis
NiS Elements Advanced Research Software Package	Nikon Instruments	MQS31100	Software for automatic live cell imaging and swarm size calculation
Poly-L-lysine fluorescein isothiocyanate (PLL-FITC)	Sigma Aldrich	P3069-10MG	30,000 - 70,000 MW PLL labeled with FITC, used to fluorescently label CP solution
SecureSeal 8-well Imaging Spacer	Grace Bio-Labs	654008	8-well, 9-mm diameter, adhesive imaging spacer
Silicon Wafer	University Wafer	590	Silicon 100 mm N/P (100) 0- 100 ohm-cm 500 µm SSP test

Spin Coater	Laurell	WS-650MZ-23NPPB	Used to spincoat a 40- μ m layer of photoresist onto silicon wafer
SU-8 2025	MicroChem	2025	Negative photoresist to make silicon master wafer
SU-8 Developer	MicroChem	Y020100	Photoresist developer. Remove non-crosslinked SU-8 2025 from silicon wafer
Sylgard 184 (polydimethylsiloxane, PDMS)	Dow	1673921	2-part silicone elastomer kit for making microstamps and PDMS wells
UV Exposure Masking System	Kloé	UV-KUB 2	Used to crosslink photoresist on silicon wafer through chrome mask with UV light
Water	Thermo Fisher Scientific	A1287303	High quality water to dilute bioparticles
Zetag 8185	BASF	8185	Cationic polyelectrolyte (CP), powder, Copolymer of acrylamide and quaternized cationic monomer, forms "inking solution" for microstamping when dissolved in water
Zyosan A S. cerevisiae BioParticles Texas Red conjugate	Invitrogen	Z2843	Bioparticle powder, dissolve in water prior to addition to Zetag array