

Materials List for:

Label-free Neutrophil Enrichment from Patient-derived Airway Secretion Using Closed-loop Inertial Microfluidics

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Materials

Name	Company	Catalog Number	Comments
PDMS precursor	Dow corning	184 SIL ELAST KIT 3.9KG	10:1 ratio of base and curing agent
VWR gravity convection oven	VWR	414005-128	PDMS precursor to be cured in 90 deg.
100mm petri dish	VWR	89000-324	Fabrication of PDMS Supporting layer
Harris Uni-core puncher	Sigma-aldrich	WHAWB100076	2mm diameter or other depending on the tubing size
Air plasma machine	Femto Science	Cute	Surface plasma treatment for PDMS device to bottom base.
2" x 3" glass slide	TED PELLA, INC.	2195	To support PDMS device
Masterflex spooled platinum-cured silicone tubing, L/S 14	Cole-Parmer	EW-96410-14	Tubing for microfluidics and peristaltic pump
1/16 inch Luer connector, male	Harvard apparatus	PC2 72-1443	Connector for fluid guide
50mL Falcon tube	Corning	21008-940	sample collection & preparation
Phosphate-Buffered Saline, 1X Without Calcium and Magnesium	Corning	45000-446	Buffer solution to dilute sample
Halyard Closed suction Catheter, Elbow, 14F/ channel 4.67mm	HALYARD HEALTH	22113	Tracheal seceation suction catheter
0.9% Sterile Normal saline, 10mL pre-filled syringe	BD PosiFlush	NHRIC: 8290-306547	For tracheal seceation collection from the patients
SecurTainer™ III Specimen Containers, 20mL	Simport	1176R36	Sterile sputum (airway secretion) collection container
Syringe with Luer-Lok Tip, 10mL	BD	BD309604	To pipette homogenize the mucus sample and reach the bottom of sample tube
BD Blunt Fill Needle, with BD Luer-Lok Tip	BD		To pipette homogenize the mucus sample and reach the bottom of sample tube
40µm nylon cell strainer	Falcon	21008-949	To remove large chunk or blood clots, which can block the microfluidics access hole or the channel.
Peristaltic pump (Masterflex L/S Digital Drive)	Cole-Parmer	HV-07522-30	operation of microfluidics
BD LSR II flow cytometer	BD Bioscience	LSR II flow cytometer	Quantification of cell recovery ratio

Fluorescein isothiocyanate (FITC)-conjugated mouse anti-human CD66b monoclonal antibody	BD Bioscience	561927	Immunostaining of neutrophils for Flow cytometer analysis
Allophycocyanin (APC)-conjugated mouse anti-human CD45 monoclonal antibody	BD Bioscience	561864	Immunostaining of neutrophils for Flow cytometer analysis
Plate reader	Thermo Fisher scientific	Varioskan	Plate reader for neutrophil elastase assay, ex485/em525
Neutrophil elastase assay kit	Cayman Chemical	600610	Neutrophil functionality assessment
Fluoresbrite YG Microspheres 10.0µm	PolyScience, Inc.	18140-2	Fluorescent particles to express white blood cell trajectory in microfluidics