

Assembly and Operation of an Acoustofluidic Device for Enhanced Delivery of Molecular Compounds to Cells

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Materials

Name	Company	Catalog Number	Comments
Fabrication of Acoustofluidic Device			
DOW SYLGARD 184 SILICONE ENCAPSULANT CLEAR 0.5 KG KIT	Ellsworth Adhesives	4019862 (SKU)	https://www.ellsworth.com/products/by-market/consumer-products/encapsulants/silicone/dow-sylgard-184-silicone-encapsulant-clear-0.5-kg-kit/
Harris Uni-Core (2.5 mm)	Electron Microscopy Sciences	69039-25	
Microfluidic Reservoir for 15 mL Falcon Tube - S (2/4 port)	Darwin Microfluidics	LVF-KPT-S-2 (SKU)	https://darwin-microfluidics.com/products/15-ml-falcon-tube-microfluidic-reservoir-s-2-4-port
Microscope Slide	VWR	16004-430	https://us.vwr.com/store/product/4646174/vwr-vistavisiontm-microscope-slides-plain-and-frosted-premium
trichlorosilane	Gelest	105732-02-3 (Cas. No.)	Chlorosilane is very hazardous and flammable. Exposure causes severe burns and eye damage.
Tygon PVC soft plastic tubing (1/16" ID, 1/8" OD)	McMaster-Carr	5233K51 (Part #)	https://www.mcmaster.com/pvc-tubing/soft-tubing-for-air-and-water/
Assembly of Acoustofluidic System			
Arduino Uno	Arduino	7630049200050 (Barcode)	https://store.arduino.cc/usa/arduino-uno-rev3
Preparation of Ultrasound Contrast Agents			
1,2-distearoyl-sn-glycero-3-ethylphosphocholine (DSEPC)	Avanti Lipids	890703P-25mg (SKU)	https://avantilipids.com/product/890703
1,2-distearoyl-sn-glycero-3-phosphocholine (DSPC)	Avanti Lipids	850365P-25mg (SKU)	https://avantilipids.com/product/850365
1,2-distearoyl-sn-glycero-3-phosphoglycerol (DSPG)	Avanti Lipids	840465P-25mg (SKU)	https://avantilipids.com/product/840465

APF-140HP (decafluorobutane gas)	FluoroMed	355-25-9 (Cas No.)	http://www.fluoromed.com/products/perfluorodecalin/
DB-338 Amalgamators	COXO		https://www.coxotec.com/coxo/db-338-amalgamators/
polyoxyethylene 40 stearate	Sigma-Aldrich	P3440-250G (SKU)	https://www.sigmaaldrich.com/catalog/product/sigma/p3440?lang=en&region=US&gclid=Cj0KCQjwy8f6BRC7ARIsAPIXOjJJh_151mYVEUyLZRavt4re9YQMLSvID64X-1KbO3LUKGjVUwbPDAaAqvOEALw_wcB
Q125 Sonicator	Qsonica	Q125-110 (Ref.)	https://www.sonicator.com/products/q125-sonicator?_pos=1&_sid=406df3776&_ss=r
Preparation of Primary T Cells			
autoMACs running buffer	Miltenyi Biotec	130-091-221 (Order No.)	https://www.miltenyibiotec.com/US-en/products/automacs-running-buffer-macs-separation-buffer.html#gref
Pan T Cell Isolation Kit, human (Pan T-Cell Biotin Antibody Cocktail & Pan T-Cell MicroBead Cocktail)	Miltenyi Biotec	130-096-535 (Order No.)	https://www.miltenyibiotec.com/US-en/products/pan-t-cell-isolation-kit-human.html#130-096-535
magnetic cell sorter (autoMACS Pro Separator)	Miltenyi Biotec	130-092-545 (Order No.)	https://www.miltenyibiotec.com/US-en/products/automacs-pro-separator-starter-kit.html#130-092-545
Preparation of A549 Lung Cancer Cells			
Trehalose Assay Kit	Megazyme	K-TREH (Cat. No.)	https://www.megazyme.com/trehalose-assay-kit
Trypan blue (0.4% in aqueous solution Ready-to-Use, sterile)	VWR	97063-702 (Cat. No.)	https://us.vwr.com/store/product/7437427/trypan-blue-0-4-in-aqueous-solution-ready-to-use-sterile