

Materials List for:

# Traction Microscopy Integrated with Microfluidics for Chemotactic Collective Migration

Hwanseok Jang<sup>1</sup>, Jongseong Kim<sup>1</sup>, Jennifer H. Shin<sup>2</sup>, Jeffrey J. Fredberg<sup>3</sup>, Chan Young Park<sup>3</sup>, Yongdoo Park<sup>1</sup>

<sup>1</sup>Department of Biomedical Sciences, Korea University

<sup>2</sup>Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology

<sup>3</sup>Department of Environmental Health, Harvard T.H. Chan School of Public Health

Correspondence to: Chan Young Park at [cypark@hsph.harvard.edu](mailto:cypark@hsph.harvard.edu), Yongdoo Park at [ydpark67@korea.ac.kr](mailto:ydpark67@korea.ac.kr)

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## Materials

Name	Company	Catalog Number	Comments
0.25% trypsin-EDTA (1X)	Gibco	25200-056	
1 M HEPES buffer solution	Gibco	15630-056	
1 mm Biopsy punch	Integra Miltex	33-31AA-P/25	
100 mm petri dishes	SPL	10100	100 mm diameter, 15 mm height
14 mm hollow punch	ILJIN	124-0571	
18 mm Ø Coverslip	Marienfeld-Superior	111580	Circular 18 mm, thickness No. 1 (0.13 to 0.16 mm)
2% bis-acrylamide solution	Bio-Rad	1610142	Wear protective gloves, clothing, and eye protection.
3-(Trimethoxysilyl)propyl methacrylate (TMSPMA)	Sigma-Aldrich	440159-500ML	
3-way stopcock	Hyupsung	HS-T-61N	CAUTION: do not use if previously opened. do not resterilize or resuse
30 cm minimum volume line (for pediatric)	Hyupsung	HS-MV-30	CAUTION: do not use if previously opened. do not resterilize or resuse
35 mm cell culture dish	Corning	430165	
40% Acrylamide Solution	Bio-Rad	1610140	Wear protective gloves, clothing, and eye protection.
75 cm minimum volume line (for pediatric)	Hyupsung	HS-MV-75	CAUTION: do not use if previously opened. do not resterilize or resuse
acetic acid	J.T. Baker	JT9508-03	
Ammonium persulfate (APS)	Bio-Rad	1610700	
Antibiotic-Antimycotic	Gibco	15240-062	
Bottom glass chip	MicroFIT		24 x 24 x 1 mm, custom-made, rectangular groove (6 x 12 mm, depth : 100 µm)
Collagen typel, Rat tail	Corning	354236	
Custom glass holder	Han-Gug Mechatronics	custom-made	
Dulbecco's Modified Eagle's Medium (DMEM)	Welgene	LM 001-11	
Dulbecco's Phosphate Buffered Saline (PBS)	Biowest	L0615-500	w/o Magnesium, Calcium
Fetal bovine serum (FBS)	Gibco	26140-179	
FluoSpheres amine-modified microspheres	Invitrogen	F8764	0.2 µm, yellow-green fluorescent(505/515)
Hepatocyte Growth Factor (HGF)	Sigma-Aldrich	H1404-5UG	recombinant, human

JuLI stage live cell imaging system	NanoEnTek In		Automated X-Y-Z stage and fluorescent imaging Incubator-compatible (37 °C and 5% CO <sub>2</sub> )
Madin-Darby Canine Kidney (MDCK) cell			type II
Oxygen plasma system	Femto Science	CUTE-MPR	
Pluronic F-127	Sigma-Aldrich	P2443-250G	
Rhodamine B isothiocyanate-dextran	Sigma-Aldrich	R9379-100MG	70 kDa, used to estimate spatiotemporal distribution of HGF in the microfluidic channel
Steril hypodermic needle 18 G	KOVAX		Trim the tip of the needle and bend it 90 degrees for connecting in/out ports with volume line
Sticky tape	3M/Scotch	810D	33 m x 19 mm
SU-8 master molds	MicroFIT		4" diameter, custom-made
sulfosuccinimidyl 6-(4'-azido-2'-nitrophenylamino)hexanoate (Sulfo-SANPAH)	Thermo Scientific	22589	Store at -20°C. Store protected from moisture and light.
Sylgard 184 Elastomer Kit	Dow Corning		PDMS
Syringe pump	Chemyx Inc.	model fusion 720	withdraw fluid
Syringes	KOVAX		1, 3, 5, 10, or 50 cc for using inlet reservoir or outlet syringe pump
tetramethylethylenediamine (TEMED)	Bio-Rad	1610800	Wear protective gloves, clothing, and eye protection.
Ultraviolet (UV) lamp	UVP LLC	95-0248-02	365 nm wavelength