

Materials List for:

High-resolution Volume Imaging of Neurons by the Use of Fluorescence eXclusion Method and Dedicated Microfluidic Devices

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Materials

Name	Company	Catalog Number	Comments
Equipments			
Plasmalab System 100	Oxford Instruments		To perform DRIE
MJB4 mask aligner	SUSS MicroTec		SU-8 photolithography
NXQ 4006 Mask aligner	Neutronix Quintel		Photolithography associated to DRIE
Plasma cleaner	Diener Electronic	Pico PCCE	
Cell culture hood	ADS Laminaire	Optimale 12	
Centrifuge	Thermo Fisher Scientific	Heraeus Multifuge X1R	
Incubator 37 °C 5% CO2	Panasonic	MCO-170AICUVH-PE IncuSafe CO2 Incubator	
Epifluorescence microscope	Leica	DMI8	
PDMS Oven between 65 and 80 °C	Memmert		
Mechanical profilometer	Veeco	Dektak 6M Stylus Profiler	
Optical profilometer	Veeco	Wyko NT9100	
Vacuum desiccator	Verrerie Villeurbanaise (Kartel Labware)	230KAR	Diameter 200 mm
Ultrasonic bath sonicator	Labo Moderne	SHE1000	Volume of the bath: 0.8 liter
Hotplate	Stuart SD162	SD162	
Masks			
DRIE			Supplementary data
Su8 Mask 1			Supplementary data
Su8 Mask 2			Supplementary data
Su8 Mask 3			Supplementary data
S1805 calibration stripes			Supplementary data
Small laboratory equipment			
1.5 mm hole puncher	Sigma-Aldrich	29002519 (US reference)	
Scalpel or razor blade			
9" Stainless Steel Flat Spatula with Spoon	VWR International	82027-532	To demold PDMS
Top Lip Wafer Handling	VWR International	63042-096	
Curved tweezer	FST	Dumont #7 Forceps - Standard / Dumoxel	To manipulate glass coverslips
Substrates			
Silicon wafer	Prolog Semicor Ltd		

24x24 mm glass coverslips	VWR	631-0127	
Photoresists and developpers			
AZ 1518 positive photoresist	Microchemicals GmbH		Before DRIE process, thicknes 1.8 μ m
AZ 351B developer	Microchemicals GmbH		To develop positive AZ 1518 photoresist
SU-8 2007	MicroChem		
SU-8 2025	MicroChem		
SU-8 2050	MicroChem		
PGMA developer	Technic		To develop SU-8 negative photoresist
Microposit S1805 resist	Chimie Tech Services		Positive photoresist used to obtain 0.5 μ m high structures
MF 26A developer	Chimie Tech Services		To develop positive S1805 photoresist
Laboratory consumables			
Disposable plastic pipette 3 mL	LifeTechnologies - ThermoFisher		
P100 Petri dishes	TPP	93100	
20 mL syringe	Terumo	SS+20ES1	
Transparent scotch tape			
Square wipes	VWR	115-2148	
Parafilm	DUTSCHER	90260	Plastic paraffin film
Chemicals			
(3-Methacryloxypropyl)trichlorosilane	abcr	AB 109004	
PDMS and curing agent Sylgard 184	Sigma-Aldrich	761036	
isopropanol		W292907	
poly-ornithine	Sigma-Aldrich	P4957 - 50 mL	
Ethanol absolute	Sigma-aldrich	02865	99.8%
3-methacryloxypropyl-trimethoxysilane	Sigma-aldrich	M6514-25ML	(C ₄ H ₅ O ₂)-(CH ₂) ₃ - Si(OCH ₃) ₃
acetic acid	Sigma-aldrich	71251-5ML-F	
Dextran 10kW conjugated with Alexa488	LifeTechnologies - ThermoFisher	D22910	Absorption at 488 nm
Dextran 10kW conjugated with Alexa647	LifeTechnologies - ThermoFisher	D22914	Absorption at 647 nm
Culture medium			
MEM	LifeTechnologies - ThermoFisher	21090-022	
Horse Serum	LifeTechnologies - ThermoFisher	26050088	
B27	LifeTechnologies - ThermoFisher	12587-010	
Glutamax 200 mM	LifeTechnologies - ThermoFisher	35050-061	
Sodium Pyruvate GIBCO 100 mM	LifeTechnologies - ThermoFisher	11360-070	
Gentamicin	LifeTechnologies - ThermoFisher	15710-049	
PBS	Sigma-Aldrich	D8537-500ML	
HBSS 10x	LifeTechnologies - ThermoFisher	14180-046	
Hepes 1M	LifeTechnologies - ThermoFisher	15630-056	
trypsin-EDTA	Sigma-Aldrich	59418C-100ML	
Neurobasal	LifeTechnologies - ThermoFisher	21103-049	

Neurobasal without phenol red	LifeTechnologies - ThermoFisher	12348-017	
Softwares			
Routine in Matlab for background normalization	Quantacell	Contact Victor Racine: victor.racine@quantacell.com	
ImageJ			To select specific ROI for image analysis
Routine	ImageJ		Supplementary data
Routine	Matlab		Supplementary data