

Materials List for

Fluorescence-Activated Nuclei Negative Sorting of Neurons Combined with Single Nuclei RNA Sequencing to Study the Hippocampal Neurogenic Niche

Thomas Kerloch¹, Tjaša Lepko², Kirill Shkura², François Guillemot¹, Sébastien Gillotin²

¹The Francis Crick Institute ²MSD R&D Innovation Centre

Corresponding Author

Sébastien Gillotin
sebastien.gillotin@msd.com

Citation

Kerloch, T., Lepko, T., Shkura, K., Guillemot, F., Gillotin, S. Fluorescence-Activated Nuclei Negative Sorting of Neurons Combined with Single Nuclei RNA Sequencing to Study the Hippocampal Neurogenic Niche. *J. Vis. Exp.* (188), e64369, doi:10.3791/64369 (2022).

Date Published

October 20, 2022

DOI

10.3791/64369

URL

jove.com/video/64369

Materials

Name	Company	Catalog Number	Comments
0.5ml microtube	Eppendorf	30124537	
10.00µm Fluoresbrite YG Carboxylate Microspheres	Polysciences	15700-10	
15 mL polypropylene centrifuge tubes	Corning	430052	
2 pairs of sterile Dumont #5 forceps	Fine Science Tools	11252-30	
4',6-diamidino-2-phenylindole (DAPI)	Sigma Aldrich	D9564-10MG	
4150 TapeStation System	Agilent	N/A	
5 mL round bottom high clarity polypropylene test tube with snap cap	Falcon	352063	
5 mL round bottom polystyrene test tube with cell strainer snap cap	Falcon	352235	
50 mL polypropylene centrifuge tubes	Corning	430829	
70 µm cell strainer	Falcon	352350	
8 peak SPHERO Rainbow Calibration Particles	BD Biosciences	RCP-30-5A	
Accudrop Beads	BD Biosciences	N/A	
Allegra X-30R Centrifuge	Beckman Coulter	N/A	
Anti-NeuN antibody, clone A60, Alexa Fluor 488 conjugated	Millipore	MAB377X	
BD FACSAria Fusion Flow Cytometer	BD Biosciences	N/A	
Beckman Coulter MoFlo XDP	Beckman Coulter	N/A	
Chromium Controller	10x Genomics	N/A	
Chromium Next GEM Single Cell 3' Reagent Kits v3.1	10x Genomics	PN-1000121; PN-1000120; PN-1000213	
BSA 7.5%	Gibco	15260037	

Dithiothreitol (DTT)	Thermo Scientific	R0861	
Dounce tissue grinder set: mortar, loose pestle (A) and tight pestle (B)	KIMBLE	D8938-1SET	
Eppendorf Tubes Protein LoBind 1.5ml	Eppendorf	30108116	
Halt, 100x Protease inhibitor	ThermoFisher	78429	
HiSeq 4000 Sequencing System	Illumina	N/A	Sequencing configuration: 28-8-0-91
KCl	Any chemical supplier		Laboratory made
LUNA-FX7 Automated Cell counter	Logos Biosystems	N/A	
MgCl ₂	Any chemical supplier		Laboratory made
N°10 guarded sterile disposable scalpels	Swann-Morton	6601	
Nuclease-free water	Sigma Aldrich	W4502-1L	
Pair of sterile student surgical scissors	Fine Science Tools	91401-12	
PBS	Any chemical supplier		Laboratory made
RNase Inhibitor 40 U µl ⁻¹	Ambion	AM2684	
RNasin 40 U µl ⁻¹	Promega	N211A	
Sterile Petri dish	Corning	430167	
Sucrose	Sigma Aldrich	59378-500G	
Tris buffer, pH 8.0	Any chemical supplier		Laboratory made
Triton X-100 10% (v/v)	Sigma Aldrich	T8787-250ML	
Trypan blue	Invitrogen	T10282	