

Materials List for:

Combining Laser Capture Microdissection and Microfluidic qPCR to Analyze Transcriptional Profiles of Single Cells: A Systems Biology Approach to Opioid Dependence

Sean J. O'Sullivan^{1,2}, Beverly A.S. Reyes³, Rajanikanth Vadigepalli¹, Elisabeth J. Van Bockstaele³, James S. Schwaber¹

¹Daniel Baugh Institute for Functional Genomics and Computational Biology, Department of Pathology, Anatomy, and Cell Biology, Thomas Jefferson University

²Sidney Kimmel Medical College, Thomas Jefferson University

³Department of Pharmacology & Physiology, Drexel University College of Medicine

Correspondence to: Sean J. O'Sullivan at sjo003@jefferson.edu

URL: <https://www.jove.com/video/60612>

DOI: [doi:10.3791/60612](https://doi.org/10.3791/60612)

Materials

Name	Company	Catalog Number	Comments
20X DNA Binding Dye	Fluidigm	100-7609	NA
2x GE Assay Loading Reagent	Fluidigm	85000802-R	NA
48.48 Dynamic Array IFC for Gene Expression	Fluidigm	BMK-M-48.48	NA
96.96 Dynamic Array IFC for Gene Expression	Fluidigm	BMK-M-96.96	NA
Anti-Cd11β Antibody	Genway Biotech	CCEC48	Microglia Stain
Anti-NeuN Antibody, clone A60	EMD Millipore	MAB377	Neuronal Stain
ArcturusXT Laser Capture Microdissection System	Arcturus	NA	NA
Biomark HD	Fluidigm	NA	RT-qPCR platform
Bovine Serum Antigen	Sigma-Aldrich	B4287	
CapSure Macro LCM Caps	ThermoFisher Scientific	LCM0211	NA
CellDirect One-Step qRT-PCR Kit	ThermoFisher Scientific	11753500	Lysis buffer solution components
DAPI	ThermoFisher Scientific	62248	Nucleus Stain
DNA Suspension Buffer	TEKnova	T0221	
Exonuclease I	New England Biolabs, Inc.	M0293S	NA
ExtracSure Sample Extraction Device	ThermoFisher Scientific	LCM0208	NA
Fisherbrand Superfrost Plus Microscope Slides	ThermoFisher Scientific	22-037-246	Plain glass slides
GeneAmp Thin-Walled Reaction Tube	ThermoFisher Scientific	N8010611	
GFAP Monoclonal Antibody	ThermoFisher Scientific	A-21294	Astrocyte Stain
Goat anti-Mouse IgG (H+L), Superclonal™ Recombinant Secondary Antibody, Alexa Fluor 488	ThermoFisher Scientific	A28175	Secondary Antibody
IFC Controller	Fluidigm	NA	NA
RNaseOut	ThermoFisher Scientific	10777019	
SsoFast EvaGreen Supermix with Low Rox	Bio-Rad	PN 172-5211	Rox master mix
SuperScript VILO cDNA Synthesis Kit	ThermoFisher Scientific	11754250	Contains VILO and SuperScript
T4 Gene 32 Protein	New England Biolabs, Inc.	M0300S	NA

TaqMan PreAmp Master Mix	ThermoFisher Scientific	4391128	NA
TE Buffer	TEKnova	T0225	NA