

Materials List for:

Laser-assisted Lentiviral Gene Delivery to Mouse Fertilized Eggs

Negin P. Martin^{*1}, Page Myers^{*2}, Eugenia Goulding¹, Shih-Heng Chen¹, Mitzie Walker¹, Thomas M. Porter¹, Lucas Van Gorder¹, Amanda Mathew¹, Artiom Gruzdev³, Erica Scappini⁴, Charles Romeo¹

¹Neurobiology Laboratory, National Institute of Environmental Health Sciences

²Comparative Medicine Branch, National Institute of Environmental Health Sciences

³Reproductive and Developmental Biology Laboratory, National Institute of Environmental Health Sciences

⁴Signal Transduction Laboratory, National Institute of Environmental Health Sciences

*These authors contributed equally

Correspondence to: Negin P. Martin at martin12@niehs.nih.gov

URL: <https://www.jove.com/video/58327>

DOI: [doi:10.3791/58327](https://doi.org/10.3791/58327)

Materials

Name	Company	Catalog Number	Comments
CD510B-1 plasmid	System Biosciences	CD510B-1	used to package the lentivirus expressing EF1a-copGFP
Dimethylpolysiloxane	Sigma	DMPS5X	culturing embryos
hyaluronidase	Sigma	H3506	used to remove cumulus cells
XYClone Laser	Hamilton Thorne Biosciences		perforating mouse fertilized eggs
Non-Surgical Embryo Transfer (NSET) Device	ParaTechs	60010	NSET of embryos
KSOM medium	Millipore	MR-020P-5F	culturing embryos
Composition of KSOM:			mg/100mL
NaCl			555
KCl			18.5
KH ₂ PO ₄			4.75
MgSO ₄ 7H ₂ O			4.95
CaCl ₂ 2H ₂ O			25
NaHCO ₃			210
Glucose			3.6
Na-Pyruvate			2.2
DL-Lactic Acid, sodium salt			0.174mL
10 mM EDTA			100µL
Streptomycin			5
Penicillin			6.3
0.5% phenol red			0.1mL
L-Glutamine			14.6
MEM Essential Amino Acids			1mL
MEM Non-essential AA			0.5mL
BSA			100
M2 medium	Millipore	MR-015-D	culturing embryos
Composition of M2:			mg/100mL
Calcium Chloride			25.1
Magnesium Sulfate (anhydrous)			16.5
Potassium Chloride			35.6

Potassium Phosphate, Monobasic		16.2
Sodium Bicarbonate		35
Sodium Chloride		553.2
Albumin, Bovine Fraction		400
D-Glucose		100
Na-HEPES		54.3
Phenol Red		1.1
Pyruvic Acid		3.6
DL-Lactic Acid		295