

Materials List for

# Bead Loading Proteins and Nucleic Acids into Adherent Human Cells

Charlotte Ayn Cialek<sup>1</sup>, Gabriel Galindo<sup>1</sup>, Amanda Lynn Koch<sup>1</sup>, Matthew Neeley Saxton<sup>1</sup>, Timothy John Stasevich<sup>1,2</sup>

<sup>1</sup>Department of Biochemistry and Molecular Biology, Colorado State University <sup>2</sup>World Research Hub Initiative, Institute of Innovative Research, Tokyo Institute of Technology

## Corresponding Author

Timothy John Stasevich  
tim.stasevich@colostate.edu

## Citation

Cialek, C.A., Galindo, G., Koch, A.L., Saxton, M.N., Stasevich, T.J. Bead Loading Proteins and Nucleic Acids into Adherent Human Cells. *J. Vis. Exp.* (), e62559, doi:10.3791/62559 (2021).

## Date Published

June 1, 2021

## DOI

10.3791/62559

## URL

jove.com/video/62559

## Materials

Name	Company	Catalog Number	Comments
10 cm cell culture dishes	VWR	82050-916	Use to culture cells
35 mm cell culture dishes	Falcon	353001	Use to construct bead loader
Attofluor Cell Chamber	Thermo Fisher Scientific	A7816	Use to construct the custom bead loader
DMEM, high glucose, no glutamine	Thermo Fisher Scientific	11960069	Use in general cell culture
Drierite Indicating Absorbents	Thermo Fisher Scientific	07-578-3B	Store the bead loader in a desiccator with these absorbent pellets
Fetal Bovine Serum	Atlas Biologics	F-0050-A	Use in general cell culture and as a supplement before bead loading
Glass beads, acid washed, $\leq 106 \mu\text{m}^*$	Millipore Sigma	G4649	Sprinkle on cells to bead load plasmid DNA and proteins
Glass bottom dishes, 35 mm, #1.5, 14 mm glass	MatTek Corporation	P35G-1.5-14-C	Seed cells onto these chambers for imaging
L-Glutamine-200 mM	Thermo Fisher Scientific	25030081	Use to make DMEM + media
Opti-MEM, Reduced Serum Medium	Thermo Fisher Scientific	31985070	Optimal media for incubating cells before bead loading (optional step)
Parafilm	VWR	52858-032	waxy film used to construct bead loader
Penicillin-Streptomycin	Thermo Fisher Scientific	15140-122	Use to make DMEM + media
Phenol-free DMEM	Thermo Fisher Scientific	31053036	Use on cells before imaging
Phosphate Buffered Saline (PBS)	Thermo Fisher Scientific	AM9625	Working stock of sterile 1X PBS
Sodium Hydroxide (NaOH)	Thermo Fisher Scientific	S318-500	Use 2 M solution to wash glass beads
Spectra Mesh Woven Filters, Polypropylene, 105 $\mu\text{m}$ opening	Spectrum Labs	148496	Use to construct bead loader
Trypsin	Thermo Fisher Scientific	25300062	Use in general cell culture