

Materials List for:

Mouse Genome Engineering Using Designer Nucleases

Mario Hermann¹, Tomas Cermak², Daniel F. Voytas², Pawel Pelczar¹

¹Institute of Laboratory Animal Science, University of Zurich

²Department of Genetics, Cell Biology & Development and Center for Genome Engineering, University of Minnesota

Correspondence to: Pawel Pelczar at pawel.pelczar@ltk.uzh.ch

URL: <https://www.jove.com/video/50930>

DOI: [doi:10.3791/50930](https://doi.org/10.3791/50930)

Materials

Name	Company	Catalog Number	Comments
Bsal	NEB	R0535S or L	
Esp3I	Thermo Scientific	ER0451	
T4 Ligase	NEB	M0202S or L	
Spectinomycin	Sigma	S0692-1ML	
Ampicillin	Sigma	A0166	
X-Gal	Sigma	B4252	
IPTG	Sigma	I6758	
Plasmid-Safe nuclease	Epicentre	E3101K	
QIAprep Spin Miniprep Kit	Qiagen	27106	
QIAGEN Plasmid Midi Kit	Qiagen	12143	
QIAquick PCR Purification Kit	Qiagen	28106	
mMESSAGE mMACHINE T7 Ultra Kit	Invitrogen	AM1345	
NucAway Spin Columns	Invitrogen	AM10070	
RNaseZAP	Sigma	R2020-250ML	
NorthernMax Formaldehyde Load Dye	Invitrogen	AM8552	
RNA Millennium Markers	Invitrogen	AM7150	
10x TBE buffer	Thermo Scientific	B52	
T7 endonuclease	NEB	M0302S or L	
pGEM-T EasyVector System I	Promega	A3600	
SYBR Green I Nucleic Acid Gel Stain	Invitrogen	S-7563	
pregnant mare's serum gonadotrophin (PMSG)	Sigma	G4877	
human chorionic gonadotropin (hCG)	Sigma	CG5	
M2 embryo culture medium	Sigma	M7167	
M16 embryo culture medium	Sigma	M7292	
Mineral oil, embryo tested	Sigma	M8410	
Ketamine	CentraVet	Ket 201	
Xylazine	Sigma Aldrich	46995	
Equipment/Tools			
Inverted microscope with Nomarski DIC optics (for example Nikon Eclipse TE200)	Nikon		

Micromanipulator units (for example Narishige, NT88NF)	Narishige		
Embryo holding capillaries	Sutter Instruments	B100-75-10	
Embryo injection capillaries	Narishige	GD-1	
Capillary puller (for example Sutter P97)	Sutter Instruments		
Microforge (for example Narishige MF-900)	Narishige		
Walton skin scissors	FST	14077-10	
Surgical scissors	FST	14041-10	
Surgical probe	FST	10140-03	
Reflex wound clip system (9 mm)	FST	12031-09	
Reflex wound clips (9 mm)	FST	12032-09	
Dumont fine forceps 5	FST	11254-20	
Moria curved forceps	FST	11370-31	
Moria fine forceps	FST	11399-80	
Dietrich bulldog clamp	FST	18038-45	
C57BL/6J mice	Jackson Labs	strain code 000664	
CD-1 mice	Charles River	strain code 000664	