

Materials List for:

Highly Efficient Gene Disruption of Murine and Human Hematopoietic Progenitor Cells by CRISPR/Cas9

Lorenzo Brunetti^{1,2,3}, Michael C. Gundry^{1,2,4}, Ayumi Kitano⁴, Daisuke Nakada^{1,2,4}, Margaret A. Goodell^{1,2,4,5}

¹Stem Cells & Regenerative Medicine Center, Baylor College of Medicine

²Center for Cell and Gene Therapy, Baylor College of Medicine

³Centro di Ricerca Emato-Oncologica (CREO), University of Perugia

⁴Department of Molecular & Human Genetics, Baylor College of Medicine

⁵Texas Children's Hospital & Houston Methodist Hospital

*These authors contributed equally

Correspondence to: Margaret A. Goodell at goodell@bcm.edu

URL: <https://www.jove.com/video/57278>

DOI: [doi:10.3791/57278](https://doi.org/10.3791/57278)

Materials

Name	Company	Catalog Number	Comments
Tissue culture plates according to cell numbers			
1.5 ml Eppendorf microtubes	Sigma	Z606340-1000EA	
50ml Falcon tubes	Corning	352070	
Nuclease Free Water - DEPC treated	ThermoFisher Scientific	AM9915G	
KAPA HiFi HotStart ReadyMix (2X)	KAPA Biosystems	KK2600	
MinElute PCR purification Kit	Qiagen	28004	
RNAse Zap RNase Decontamination Solution	ThermoFisher Scientific	AM9780	
RNA Clean and Concentrator-25	Zymo	R1017	
HiScribe T7 High Yield RNA Synthesis Kit	New England Biolabs	E2040S	
Alt-R S.p. Cas9 Nuclease 3NLS, 100 µg	IDT	1074181	
40 mm Cell Strainers	VWR	352340	
Dulbecco's Phosphate Buffered Saline (PBS)	GenDEPOT	CA008-050	
Fetal Bovine Serum (FBS), Regular	Corning	35010CV	
AutoMACS Pro Separator or MACS manual Cell Separation columns	Miltenyi		
Neon Transfection System Device	ThermoFisher Scientific		
Neon Transfection System 10mL kit	ThermoFisher Scientific	MPK1025	For larger numbers of cells (see protocol) Neon Transfection System 100 mL kit (# MPK10025) can be used
Name	Company	Catalog Number	Comments
UltraPure 0.5M EDTA, pH 8.0	ThermoFisher Scientific	15575020	For human experiments only
Lymphoprep	Stem Cell Technologies	7851	For human experiments only
CD34 MicroBead Kit UltraPure human	Miltenyi Biotec	130-100-453	For human experiments only
Stem Span SFEM II	Stem Cell Technologies	9605	For human experiments only

Recombinant Human SCF	Miltenyi Biotec	130-096-695	For human experiments only
Recombinant Human TPO	Miltenyi Biotec	130-094-013	For human experiments only
Recombinant Human FLT3L	Miltenyi Biotec	130-096-479	For human experiments only
Name	Company	Catalog Number	Comments
Mouse dissection tools			For mouse experiments only
Mortar and Pestle			For mouse experiments only
Hank's Balanced Salt Solution (HBSS)	Gibco	14170112	For mouse experiments only
Biotin-conjugated anti c-kit antibody	eBioscience	13-1171-82	For mouse experiments only
Anti-Biotin MicroBeads	Miltenyi Biotec	130-090-485	For mouse experiments only
X VIVO-15, with L-Glutamine, Genatmycin and Phenol Red	Lonza	04-418Q	For mouse experiments only
Mouse IL-6	Peprtech	216-16	For mouse experiments only
Mouse TPO	Peprtech	315-14	For mouse experiments only
Mouse IL-3	Peprtech	213-13	For mouse experiments only
Mouse SCF	Peprtech	250-03	For mouse experiments only