

Materials List for:

# CRISPR-Mediated Reorganization of Chromatin Loop Structure

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## Materials

Name	Company	Catalog Number	Comments
RPMI 1640 media	Life Technologies	11875-119	For K562 cell culture
DMEM media	Life Technologies	11995-065	1X, for 293T cell culture
lentiCRISPR v2	Addgene plasmid	#52961	For CLOuD9 plasmid development
pRSV-Rev	Addgene plasmid	#12253	For lentivirus production
pMD2.G	Addgene plasmid	#12259	For lentivirus production
pMDLg/pRRE	Addgene plasmid	#12251	For lentivirus production
Lipofectamine 2000	Thermo Fisher Scientific	11668-019	For lentivirus production
anti-HA antibody	Cell Signaling	3724	For immunoprecipitation
anti-Flag antibody	Sigma	F1804	For immunoprecipitation
DNeasy Blood and Tissue Kit	Qiagen	69504	For DNA extraction
TRIzol	Life Technologies	15596-018	For RNA extraction
RNeasy Kit	Qiagen	74106	For RNA extraction
Superscript VILO	Life Technologies	11754-050	For cDNA
SYBR Green I MasterMix	Roche	4707516001	For qPCR analysis
Light Cycler 480II	Roche		For qPCR analysis
anti-H3K4me3 antibody	AbCam	ab8580	For ChIP-qPCR
anti-RNA Pol-II antibody	Active Motif	61083	For ChIP-qPCR
EDTA free protease inhibitor	Roche	11873580001	For protein extraction
4-12% Tris Glycine gel	Biorad		Any size, For western blot
anti-Rabbit HRP antibody	Santa Cruz	sc-2030	For western blot
anti-mouse HRP antibody	Cell Signaling	7076S	For western blot
K562 and H3K293 ChIP-Seq data	Encode	ENCSR000AKU	For ChIP-seq analysis
K562 and H3K293 ChIP-Seq data	Encode	ENCSR000APE	For ChIP-seq analysis
K562 and H3K293 ChIP-Seq data	Encode	ENCSR000FCJ	For ChIP-seq analysis
K562 and H3K293 ChIP-Seq data	GEO	GSM1479215	For ChIP-seq analysis
Dynabeads Protein A for Immunoprecipitation	Thermo Fisher Scientific	10001D	For immunoprecipitation
Dynabeads Protein G for Immunoprecipitation	Thermo Fisher Scientific	10004D	For immunoprecipitation
RNA Clean & Concentrator-5	Zymo Research	R1015	For RNA purification

Pierce 16% Formaldehyde Methanol-free	Thermo Fisher Scientific	28908	For crosslinking
PX458 Plasmid	Addgene	48138	Suggested active Cas9 plasmid for gRNA cloning, but any active Cas9 plasmid will do
QIAquick PCR Purification Kit	Qiagen	28104	For PCR purification
FastDigest BsmBI	Thermo Fisher Scientific	FD0454	For cloning guide RNAs
FastAP	Thermo Fisher Scientific	EF0651	For cloning guide RNAs
10X FastDigest Buffer	Thermo Fisher Scientific	B64	For cloning guide RNAs
QIAquick Gel Extraction Kit	Qiagen	28704	For cloning guide RNAs
10X T4 Ligation Buffer	NEB	B0202S	For cloning guide RNAs
T4 PNK	NEB	M0201S	For cloning guide RNAs
2X Quick Ligase Buffer	NEB	B2200S	For cloning guide RNAs
Quick Ligase	NEB	M2200S	For cloning guide RNAs
<b>Buffers</b>			
Farnham lysis buffer			1% Tris-Cl pH 8.0, 1% SDS, 1% protease inhibitor water solution (non-EDTA), and 1 mM EDTA in water
Modified RIPA buffer			1% NP40/Igepal, 0.5% sodium deoxycholate, 0.1% SDS, 1 mM EDTA, and 1% protease inhibitor water solution (non-EDTA) in PBS pH 7.8 or 7.4
IP dilution buffer			0.01% SDS, 1.1% Triton-X 100, 1.2 mM EDTA, 16.7 mM Tris-HCl pH 8.0, 167 mM NaCl, 0.1x protease inhibitor
Wash buffer			100 mM Tris pH 9, 100 mM LiCl, 1% NP-40, and 1% sodium deoxycholate
Swelling buffer			0.1 M Tris pH 7.5, 10 mM potassium acetate, 15 mM magnesium acetate, 1% NP-40
Dilution buffer			0.01% SDS, 1.1% Triton X-100, 1.2 mM EDTA, 16.7 mM Tris pH 8 and 167 mM NaCl
IP elution buffer			1% SDS, 10% NaHCO <sub>3</sub>