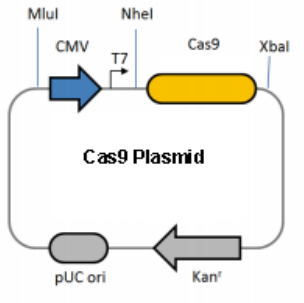
Cas9 Plasmids (from Sigma)

CAS9P

Cas9 Plasmid



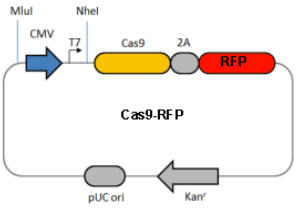
The Cas9 expression plasmids use the CMV promoter for strong transient expression of Cas9. Alternate promoters can be substituted by replacement of CMV using MluI and NheI. Also, the Cas9 expression plasmids can be linearized using XbaI for T7-based mRNA production.

Must be used in conjunction with a U6-gRNA plasmid in order to mediate a double strand break in the DNA.

Typical transfection concentrations used in literature are in the ranges of ≥1.0 ug/uL and ≤ 5 uL of Cas9 plasmid combined with ≥ 1.0 ug/uL and ≤ 5 uL of U6-gRNA plasmids. (All dosages above assume 0.5 to 1 million cells nucleofected)

CAS9RFPP

Cas9-RFP Plasmid



The Cas9 expression plasmids use the CMV promoter for strong transient expression of Cas9. Alternate promoters can be substituted by replacement of CMV using MluI and NheI. Also, the Cas9 expression plasmids can be linearized using XbaI for T7-based mRNA production. The addition of a fluorophore that is translationally co-expressed with the Cas9 nuclease allows for easy visualization of successful transfection.

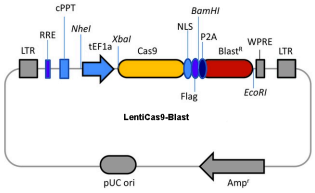
Must be used in conjunction with a U6-gRNA plasmid in order to mediate a double strand break in the DNA.

Typical transfection concentrations used in literature are in the ranges of ≥1.0 ug/uL and ≤ 5 uL of Cas9 plasmid combined with ≥ 1.0 ug/uL and ≤ 5 uL of U6-gRNA plasmids. (All dosages above assume 0.5 to 1 million cells nucleofected)

CAS9BLST

LentiCas9-Blast

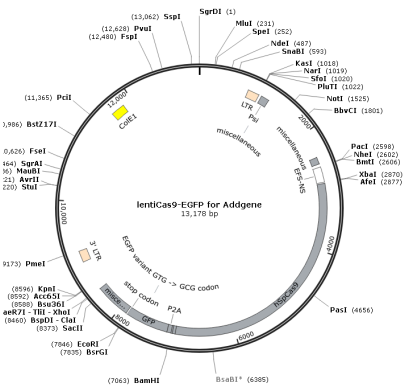
EF1a-Cas9-2A-Blasticidin Lenti



This product is a blasticidin resistant lenti-Cas9 plasmid for generation of lentiviral particles. Use Sigma's lentiviral Cas9 reagents to efficiently generate stable cell lines expressing Cas9 for CRISPR genome editing. Sigma's lenti-Cas9 plasmid is one part of a two-vector CRISPR system with individual Cas9 and gRNA expression vectors.

Cas9 Plasmids (from Zhang Lab)

CAS9GFPP LentiCas9-EGFP



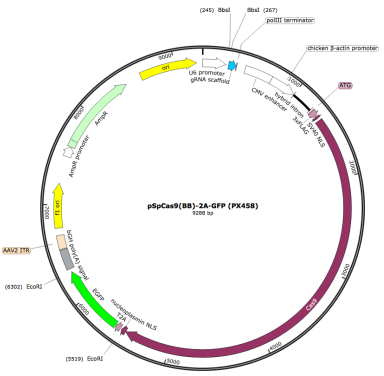
Expresses human codon-optimized S. pyogenes Cas9 protein and EGFP from EFS promoter. Lentiviral backbone.

For your **Materials & Methods** section:
lentiCas9-EGFP was a gift from Phil Sharp & Feng Zhang (Addgene plasmid # 63592)

For your **References** section:
Genome-wide CRISPR screen in a mouse model of tumor growth and metastasis. Chen S, Sanjana NE, Zheng K, Shalem O, Lee K, Shi X, Scott DA, Song J, Pan JQ, Weissleder R, Lee H, Zhang F, Sharp PA. *Cell. 2015 Mar 12;160(6):1246-60. doi: 10.1016/j.cell.2015.02.038. Epub 2015 Mar 5.* 10.1016/j.cell.2015.02.038 PubMed 25748654

PX458 pSpCas9(BB)-2A-GFP_(PX458)

Cas9 from S. pyogenes with 2A-EGFP, and cloning backbone for sgRNA

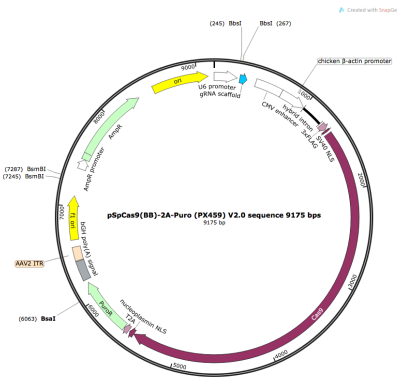


For your **Materials & Methods** section:
pSpCas9(BB)-2A-GFP (PX458) was a gift from Feng Zhang (Addgene plasmid # 48138)

For your **References** section:
Genome engineering using the CRISPR-Cas9 system. Ran FA, Hsu PD, Wright J, Agarwala V, Scott DA, Zhang F. *Nat Protoc. 2013 Nov;8(11):2281-308. doi: 10.1038/nprot.2013.143. Epub 2013 Oct 24.* 10.1038/nprot.2013.143 PubMed 24157548

PX459 pSpCas9(BB)-2A-Puro_(PX459)

Cas9 from S. pyogenes with 2A-Puro, and cloning backbone for sgRNA



For your **Materials & Methods** section:
pSpCas9(BB)-2A-Puro (PX459) was a gift from Feng Zhang (Addgene plasmid # 48139)

For your **References** section:
Genome engineering using the CRISPR-Cas9 system. Ran FA, Hsu PD, Wright J, Agarwala V, Scott DA, Zhang F. Nat Protoc. 2013 Nov;8(11):2281-308. doi: 10.1038/nprot.2013.143. Epub 2013 Oct 24. 10.1038/nprot.2013.143 PubMed 24157548