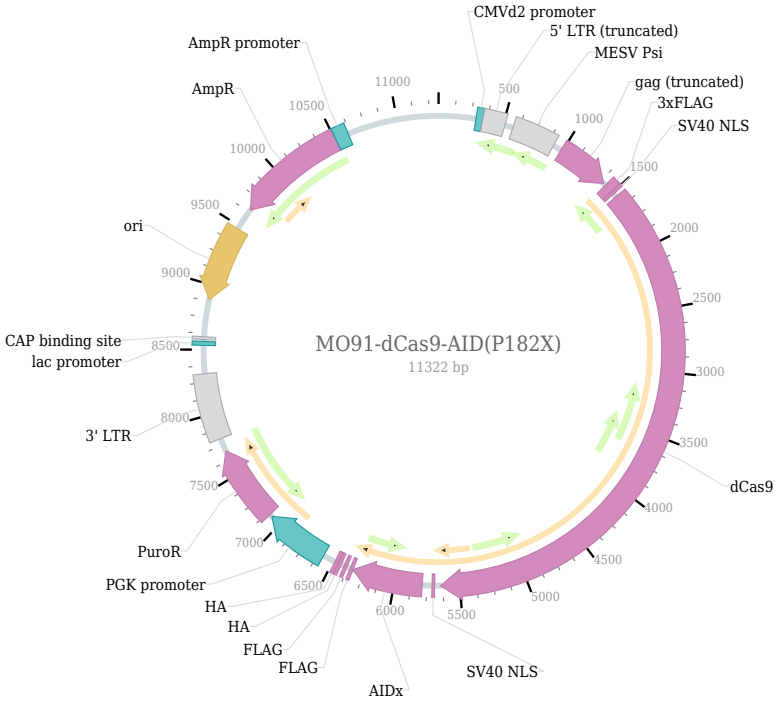
MO91-dCas9-AID(P182X)

Vector ID	V016845
Antibiotic Resistance	Ampicillin
Length	11322 bp
Vector Type	Gene knockout
Host	Mammalian cells, Retrovirus

Product Information

Replication Origin	ori
Selection Marker	Puro
Promoter	mPGK
Growth Strain(s)	Stbl3
Growth Temperature	37℃
Comment	MO91-dCas9-AID(P182X) is an MSCV retroviral mammalian expression plasmid developed by Chang's lab for the TAM (Targeted AID-mediated mutagenesis) system, published in Nature Methods 2016. It encodes a fusion protein consisting of nuclease-dead SpCas9 (D10A/H840A dCas9) and truncated human AID-P182X (AIDx), a cytidine deaminase lacking the C-terminal nuclear export sequence to boost nuclear mutagenic activity. Flanked by SV40 NLS and 3×FLAG tags at both termini, the vector carries a PGK-puromycin resistance cassette to generate stable cell lines after retroviral transduction. Guided by sgRNAs, this fusion induces diversified C/G point mutations across target loci; co-expression of Ugi restricts edits to exclusive C→T conversions. It is primarily applied in forward genetic screening for gain-of-function variants and drug-resistance mutations in human cells.

Vector Map



Plasmid Resuspension Protocol

1. Centrifuge at 5,000×g for 5 min.
2. Carefully open the tube and add sterile water to dissolve the DNA: add 20 µl for 5 µg plasmid, and 100 µl for 100 µg plasmid.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin to concentrate the liquid at the bottom. Speed is less than 5000×g.
5. Store the plasmid at -20 ℃.