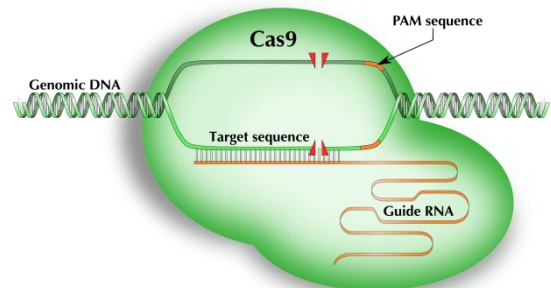


# Genome Editing with CRISPR/Cas9

CRISPR/Cas9 is the cutting-edge RNA-guided genome editing tool, which is *versatile, simple and affordable*. Cas9 in complex with the guide RNA will lead to double-stranded break in a sequence-specific manner. Genome editing can be achieved via repair mechanism.

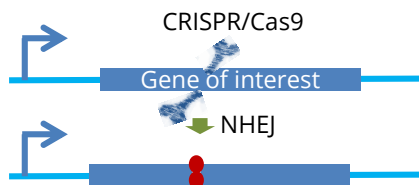
CRISPR/Cas9 Products
<b>KN2.0 Gene knockout kits:</b> up to 50% double knockout efficiency <b>New</b>
<b>CRISPR/Cas9 vectors</b> (All-in-one, Lenti, Cas9)
<b>Cas9 antibodies / Cas9 enzymes</b>
<b>AAVS1 / ROSA26 transgene insertion</b> Expression in genomic safe location



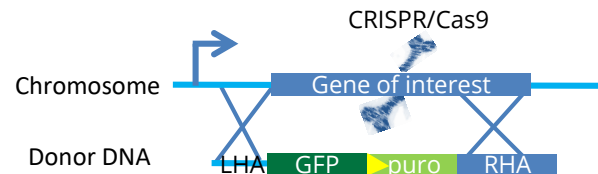
Custom Services
<b>gRNA cloning service into CRISPR vectors</b> \$150, sequenced and ready to use
<b>Donor vector of your own design</b>

## Applications using CRISPR/Cas9 as a genome editing tool

### 1. Indels (no donor template DNA)

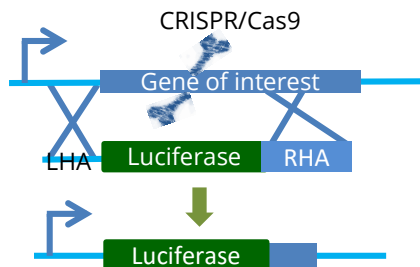


### 2. Gene knock-out with a reporter(s) knock-in



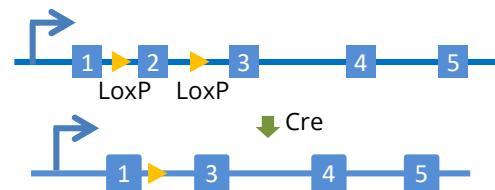
### 3. Native Promoter Study

Luciferase under the endogenous promoter



### 4. Conditional knockout

For essential genes or tissue-specific study inserting LoxP sites around the exon(s) to be knocked-out

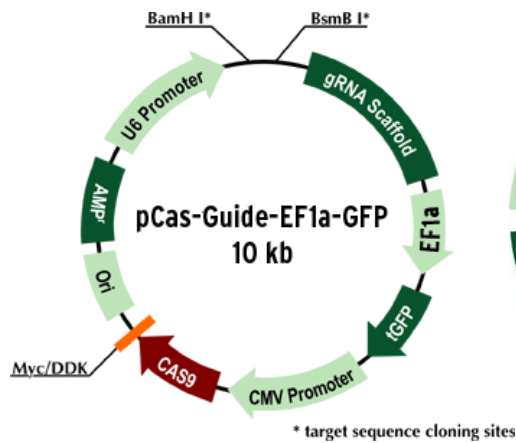


### 5. Specific mutations (with donor template DNA)

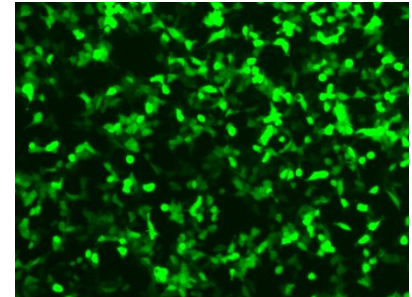
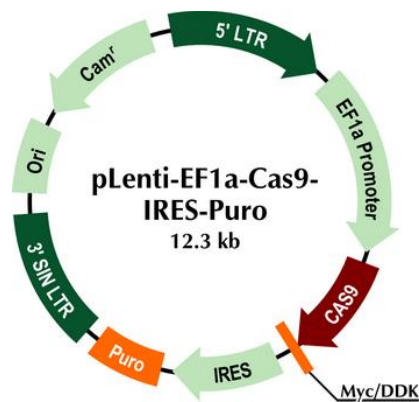
- SNPs—SNP associated disease, gene correction
- Desired deletions/insertions
- Tagging the endogenous genes

# Genome Editing with CRISPR/Cas9

## CRISPR/Cas9 All-in-one vectors



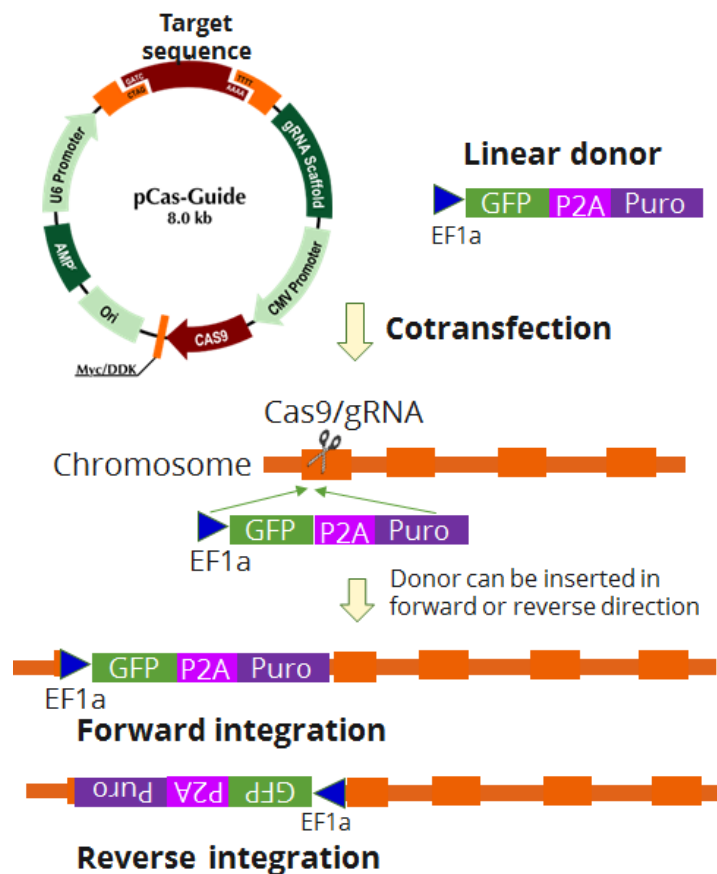
## Cas9 Lenti Vector



pCas-Guide-EF1a-GFP was transfected into HEK293 cells. The fluorescent picture shows the expression of GFP.

More CRISPR vectors: <https://www.origene.com/products/vectors/crispr-vectors>

## Scheme of Genome-editing knockout: KN2.0



CRISPR Video YouTube

