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Recombinant CRISPR Cas9 Protein, Research-Grade

Catalog #CAS-EE109

Storage Condition -20°C ± 5°C for 24 months. Avoid repeated freeze/thaw cycles.
Form Liquid
Source *E. Coli* with CRISPR *Cas9* gene of *S. pyogenes*
Synonyms CRISPR-associated endonuclease Cas9/ Csn1, cas9, SpCas9, SpyCas9
Storage Buffer 30mM Tris-HCl, 0.3M NaCl, 50% Glycerol, 0.1 mM EDTA, pH 7.4
Concentration 9.5-11.5mg/mL. The exact concentration is shown on the product label.
Product Contents

- Recombinant Cas9 Protein,

Product Description
CRISPR (clustered regularly interspaced short palindromic repeat) is an adaptive immune system that provides protection against mobile genetic elements (viruses, transposable elements and conjugative plasmids). CRISPR clusters contain spacers, sequences complementary to antecedent mobile elements, and target invading nucleic acids. CRISPR clusters are transcribed and processed into CRISPR RNA (crRNA). In type II CRISPR systems correct processing of pre-crRNA requires a trans-encoded small RNA (tracrRNA), endogenous ribonuclease 3 (rnc) and Cas9.
Applications

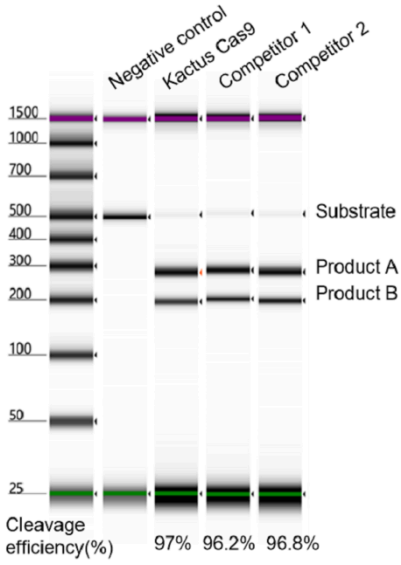
- Genome editing with CRISPR
- T-Cells, Stem Cells, etc.

Quality Control Statement
KACTUS manufactures this product and performs stringent quality control testing before release. The production is antibiotic- and animal-free.

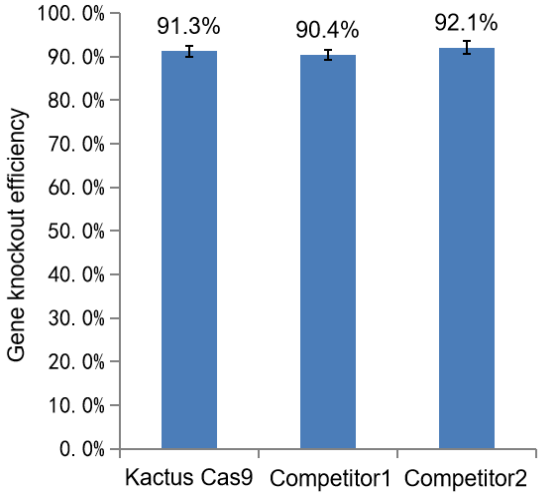
Quality Control Release Criteria

Assay	Criteria
Purity (Bis-Tris)	≥ 95%
Purity (RP-HPLC)	≥ 95%
Purity (SEC-HPLC)	≥ 95%
Activity (*in vitro* cleavage)	> 85%
Endotoxin	≤ 10EU/mg
Residual DNase	≤ LOD
Residual RNase	≤ LOD
Residual Host Cell Protein	≤ 100ng/mL
Residual Host Cell DNA	≤ 200ng/mL
Sterility	Negative
Mycoplasma	Negative
Nickel salt residue	Negative

Performance Validation



Cas9 cuts substrate DNA during *in vitro* cleavage reaction. Results show cleavage activity of KACTUS Cas9 is equivalent to that of leading competitors.



Cas9 is used for gene knockout in 293T cell line. Results show KACTUS Cas9 has the same knockout efficiency as leading competitors.