Datasheet for ABIN3071563

CRISPR-Cas9 (Active) Protein

Go to Product page

Overview

Quantity:	10 µg
Target:	CRISPR-Cas9
Origin:	Streptococcus pyogenes
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Antibody Production (AbP), Genome Editing with Engineered Nucleases (GEEN), In vitro Cleavage Assay (IVCA)

Product Details

Specificity:	Activity test Cas9 site-specific digestion: We used in vitro digestion of a linearized plasmid to determine the activity of the Cas9 nuclease. It is a sensitive assay for GenCrispr Cas9 quality control. The linearized plasmid containing the target site: (CATCATTGGAAAACGTTCTT) can be digested with gRNA: (CAUCAUUGGAAAACGUUCUUGUUUUAGAGCUAGAAAUAGCAAGUUAAAAUAAGGCUA GUCCGUUAUCAACUUGAAAAAGUGGCACCGAGUCGGUGCUUUUUUUU) and GenCrispr Cas9. Two cleavage DNA fragments (812 bp and 1898 bp) are determined by agarose gel electrophoresis. A 20 µL reaction in 1xCas9 Nuclease Reaction Buffer containing 160 ng linearized plasmid, 40 nM gRNA and 20 nM GenCrispr Cas9 for 2 hours at 37 °C results in 90 % digestion of linearized plasmid as determined by agarose gel electrophoresis.

Product Details

Characteristics:	GenCrispr Cas9 Nuclease is produced by expression in an E. colistrain carrying a plasmid encoding the Cas9 gene from Streptococcus pyogenes without nuclear localization signal (NLS).
Purification:	purified
Purity:	> 95 % pure as determined by SDS-PAGE with Coomassie Blue detection.
Components:	GenCrispr Cas9 Nuclease 10X Reaction Buffer

Target Details

Target:	CRISPR-Cas9
Alternative Name:	Cas9 Nuclease
Background:	GenCrispr Cas9 Nuclease is the recombinant Streptococcus pyogenes Cas9 (wt) protein purified from E. coli that can be used for genome editing by inducing site-specific double stranded breaks in double stranded DNA. Cas9 protein forms a very stable ribonucleoprotein (RNP) complex with the guide RNA (gRNA) component of the CRISPR/Cas9 system. The RNP complex recognizes the target site by matching gRNA with the genomic DNA sequence and produces DNA breaks within 3 bases from the NGG PAM (Protospacer Adjacent Motif). With GenCrispr Cas9 nuclease, customers can screen for highly efficient gRNA in vitro using DNA cleavage assays. The high purity Cas9 protein can also be used for antibody production.

Application Details

Application Notes:	Screening for highly efficient and specific targeting gRNAs by in vitro DNA cleavage using Cas9 Nuclease from S. pyogenes Highly purified Cas9 antigen could be used for specific antibody production.
Restrictions:	For Research Use only

Handling

Concentration:	0.2 mg/mL
Buffer:	10X Reaction Buffer: 200 mM HEPES, 1M NaCl, 50 mM MgCl2, 1 mM EDTA, pH 6.5 at 25 °C. 1X Storage Buffer: 10 mM Tris, 300 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50 % Glycerol pH 7.4 at 25 °C
Preservative:	Dithiothreitol (DTT)

Handling

Precaution of Use:	This product contains Dithiothreitol (DTT): a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	GenCrispr Cas9 is supplied with 1X storage buffer (10 mM Tris, 300 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% Glycerol PH 7.4 at 25°C) and is recommended to be stored at -20°C.br/>Diluent Compatibility: Diluent Buffer: 300 mM NaCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, 500 µg/ml BSA and 50% glycerol. (pH 7.4 at 25°C).