Datasheet for ABIN7447881

CRISPR-Cas9 protein (His tag)

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Overview

Quantity:	100 µg
Target:	CRISPR-Cas9
Origin:	Streptococcus pyogenes
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	His tag

Product Details

Purpose:	GENPower™ NLS-Cas9 Nuclease Protein (MALS verified)
Brand:	GENPower™
Sequence:	Asp 2 - Asp 1368
Characteristics:	GENPower™ NLS-Cas9 Nuclease is expressed from E.coli cells. It contains AA Asp 2 - Asp 1368 (Accession # Q99ZW2-1).
Purity:	95,00 %
Endotoxin Level:	0.01 EU per µg
Grade:	MALS verified

Target Details

Target:	CRISPR-Cas9
Alternative Name:	Cas9 Nuclease Protein

Target Details

Background:	Synonyms:CAS9,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 this protein. The tracrRNA serves as a guide for ribonuclease 3-aided processing of pre-crRNA, Cas9 only stabilizes the pre-crRNA:tracrRNA interaction and has no catalytic function in RNA processing. Subsequently Cas9/crRNA/tracrRNA endonucleolytically cleaves linear or circular dsDNA target complementary to the spacer, Cas9 is inactive in the absence of the 2 guide RNAs (gRNA). The target strand not complementary to crRNA is first cut endonucleolytically, then trimmed 3'-5' exonucleolytically. DNA-binding requires protein and both gRNAs, as does nuclease activity. Cas9 recognizes the protospacer adjacent motif (PAM) in the CRISPR repeat sequences to help distinguish self versus nonself, as targets within the bacterial CRISPR locus do not have PAMs. DNA strand separation and heteroduplex formation starts at PAM sites, PAM recognition is required for catalytic activity.
Molecular Weight:	164.8 KDa

Application Details

Comment:	This protein carries a polyhistidine tag at the N-terminus. The protein has a calculated MW of 164.8 KDa. The protein migrates as 140-150 kDa under reducing (R) condition (SDS-PAGE).
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	20 mM Tris,200 mM NaCl, pH 7.5
Storage:	-20 °C
Storage Comment:	-20°C