

Cas9 Nuclease GFP NLS Enzyme

Cas9 Nuclease GFP NLS Protein

CATALOG #
AAA23886

HOST
E. coli

PRODUCT SYNONYMS

Cas9 Nuclease GFP NLS; Cas9 Nuclease GFP NLS Protein; spCas9; spCas9-GFP; Cas9-GFP; CRISPR-associated endonuclease Cas9 from Streptococcus pyogenes; Cas9 Nuclease GFP NLS enzyme

PRODUCT SPECIFICATIONS

Host	E. coli
Form/Format	10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM DTT, 300 mM NaCl, and 50% (v/v) Glycerol.
Concentration	Protein Concentration: 1000nM, 188 ug/mL (varies by lot)
Includes	- Cas9 Nuclease GFP NLS Protein (1000 nM) / Size: 9.5 ug (50 pmol/50 ul) - 10X Cas9 Reaction Buffer / Size: 1.25 mL
Cas Type	Nuclease
Cas Origin	spCas9
Cas Protein Marker	GFP
Preparation and Storage	Store all components at -20°C.

IMAGES

Protocol: In vitro digestion of DNA		
1. Add the following components to a sterile, nuclease-free tube sitting on ice:		
Components	Volume	Final Concentration
sgRNA (300 nM)	3 µl	~30 nM
Cas9 Nuclease GFP NLS Protein (1000 nM)	1 µl	~30 nM
10X Cas9 Reaction Buffer	3 µl	1X
Nuclease-free H ₂ O	20 µl	-
Pre-incubate for 15 minutes at 37°C		
Substrate DNA (30 nM)	3 µl	3 nM
Total Volume	30 µl	-
2. Collect all components by a brief centrifugation. Incubate the reaction at 37°C for 1 hour.		
3. Analyze fragments via agarose gel electrophoresis.		
Note: The substrate DNA : sgRNA : Cas9 molar ratio must be kept at 1:10:10 for highest efficiency.		

Application Data

ADDITIONAL INFORMATION

Related Product Information for Cas9 Nuclease GFP NLS enzyme

The Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) /Cas9 system is the latest RNA-guided, endonuclease tool in genome editing which allows for very specific genomic disruption and replacement. The Cas9 nuclease serves to unwind the genomic DNA duplex next to conserved protospacer adjacent motifs (PAMs) and homes in on its target sequence, which is recognized by a complementary single-guide RNA. The resulting double-stranded break gets repaired by the non-homologous end joining (NHEJ) pathway, leading to a disruption in the open reading frame of the targeted gene. Alternatively, by supplying a suitable repair template, virtually any desired point mutation can be introduced at the break point via homology-directed repair (HDR). The Cas9 from the bacteria Streptococcus pyogenes, abbreviated spCas9, is the most commonly used Cas9 variant. The fusion of Cas9 Nuclease NLS to GFP allows for visual confirmation of transfection as well as subsequent verification of Cas9 clearance from the cells. Cas9 Nuclease-GFP can also be used for FACS applications and screening. Cas9 Nuclease-GFP NLS contains a SV40 T antigen nuclear localization sequence (NLS) on the C-terminus of the protein. Our Cas9-GFP proteins have the Enhanced green fluorescent protein (eGFP).

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-enzyme/cas9-nuclease-gfp-nls/23886>