Recombinant S. pyogenes Cas9 Protein, GFP-Labeled

Cat. No. cas9-01S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Streptococcus pyogenes Cas9 Protein fused with enhanced GFP was expressed in expressed in E. coli. Recombinant Cas9-GFP protein from Streptococcus pyogenes (~194 KD) is a ready-to-use reagent for genome engineering experiments. When combined with target-specific guide RNAs, wild type Streptococcus pyogenes Cas9-GFP protein will act as a targeted nuclease suitable for transfection of cell cultures and for the accelerated development of genetically-modified animals via one-cell embryo injection. An N-terminally fused enhanced green fluorescent protein with an excitation peak at 488 nm and emission peak at 509 nm allows for visualization of transfected RNP complex in addition to utility in flow cytometry applications. The protein also contains three varied nuclear localization sequences postioned for optimal activity. Highly specific Highly active Ready-to-inject/transfect Each kit consists of one vial of lyophilzed Cas9-GFP recombinant protein one vial containing 1 mL of 1× dilution buffer one vial containing 1 mL of nuclease-free water with glycerol
Species	Streptococcus pyogenes
Source	E.coli
Description	CRISPR/Cas systems are employed by bacteria and archaea as a defense against

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	invading viruses and plasmids. Recently, the type II CRISPR/Cas system from the bacterium Streptococcus pyogenes has been engineered to function in eukaryotic systems using two molecular components: a single Cas9 protein and a non-coding guide RNA (gRNA). The Cas9 endonuclease can be programmed with a gRNA, directing a DNA double-strand break (DSB) at a desired genomic location. Similar to DSBs induced by zinc finger nucleases (ZFNs), the cell then activates endogenous DNA repair processes, either non-homologous end joining (NHEJ) or homology-directed repair (HDR), to heal the targeted DSB.
Form	Lyophilized powder
Molecular Mass	~194 kDa
Purity	≥90% (SDS-PAGE)
Applications	Functional Genomics Target Validation Genome Editing Fluorescence Microscopy Flow Cytometry
Storage	At -20 centigrade.
Reconstitution	Lyophilized S. pyogenes Cas9-GFP protein should be resuspended in the Reconstitution solution provided to desired concentration. Gently tap tube to completely dissolve lyophilized powder, incubate for 10 minutes on ice, and spin tube to bring material to bottom of tube.
Shipping	Wet ice

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GENE INFORMATION

Gene Name	cas9 type II CRISPR RNA-guided endonuclease Cas9 [Streptococcus pyogenes]
Official Symbol	cas9
Synonyms	cas9; type II CRISPR RNA-guided endonuclease Cas9; Cas9-EGFP; SpCas9-EGFP; SpCas9-GFP; type II CRISPR RNA-guided endonuclease Cas9; Cas9, originally named Csn1, is the large, multifunctional signature protein of type II CRISPR/Cas systems. It is well known even to general audiences because its RNA-guided endonuclease activity has made it a popular tool for custom editing of eukaryotic genomes.
Gene ID	69900935
Protein Refseq	WP_038431314

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