

# Active Recombinant Full Length Streptococcus pyogenes serotype M1 type II CRISPR RNA-guided endonuclease Cas9 Protein, GFP-tagged

Cat. No. CAS9-22S Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	Recombinant Full Length Streptococcus pyogenes serotype M1 Cas9 Protein with GFP-tag was expressed in E. coli.
<b>Species</b>	Streptococcus pyogenes serotype M1
<b>Source</b>	E.coli
<b>ProteinLength</b>	Full length
<b>Description</b>	<p>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. 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). 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. PAM recognition is also</p>

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

required for catalytic activity.

**Tag** C-GFP

**Molecular Mass** 194 kDa

**AA Sequence**

SGRKKRRQRRRPQGGSPAARKVKLDGGSPAARKVKLDGGSPAARKVKLDGGSPA  
 AKRVKLDGIHGVPAAATMDKKYSIGLDIGTNSVGWAVITDEYKVPSSKFKVLGNTDRH  
 SIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFH  
 RLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLLIYAL  
 AHMIKFRGHFLIEGDLNPDNSVDKLFQILVQTYNQLFEENPINASGVDAKILSARLS  
 KSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDYYDDL  
 DNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLL  
 KALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKL  
 NREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYV  
 GPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVL  
 PKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKE  
 DYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLF  
 EDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFL  
 KSDGFANRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIKKGILQTV  
 KVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEDIKELGSQILKE  
 HPVENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNK  
 VLTRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSEL  
 DKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDF  
 QFYKVREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVDVRKMIKSEQ  
 EIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKV  
 LSMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSV  
 LVVAKVEKGKSKKLKSVKELLGITIMERSSFEKNPIDFLEAKGYKEVKKDLIIKLPKYSL  
 FELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLGKSPEDNEQKQLFV  
 EQHKHYLDEIIEQISEFSKRIVILADANLDKVL SAYNKHRDKPIREQAENIIHLFTLTNLG

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

APAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDL SQLGGDGSPKKKRKVE  
 DPKKKRKVDTGSKGEELFTGVVPILVELDGDVNGHKFSVRGEGEGDATNGKLT LKFI  
 CTTGKLPVPWPTLVTTLT YGVQCFSRYPDHMKQHDFFKSAMPEGYVQERTISFKDD  
 GTYKTRAEVKFEGDTLVNRIELK GIDFKEDGNILGHKLEYNFNSHN VYITADKQKNGI  
 KANFKIRHNVEDG SVQLADHYQQNTPIGDGPVLLPDNH YLSTQSVLSKDPNEKRDH  
 MVLLEFVTAAGITHGMD ELYK

**Purity** > 90 % by SDS-PAGE

**Storage** Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

**Concentration** 20 mg/mL by Bradford

**Storage Buffer** Sterile solution in 40mM Tris, pH 7.5, 580mM KCl, 2mM MgCl<sub>2</sub>, 2mM TCEP, 20 % Glycerol

## 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; csn1; 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](#)

 Tel: 1-631-559-9269 1-516-512-3133

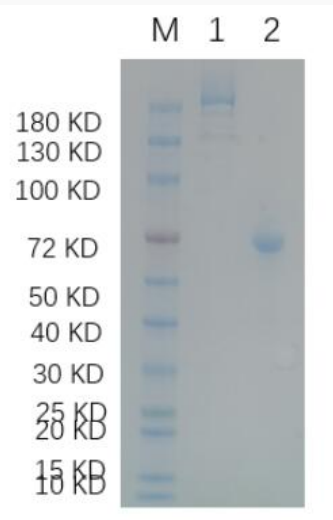
 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Protein Refseq WP\_038431314

UniProt ID A0A0H3BZZ0

Reducing 12 % SDS-PAGE (CBB stained) analysis profiles of purified Cas9.



1. Cas9  
2. BSA

Tel: 1-631-559-9269 1-516-512-3133

Email: [info@creative-biomart.com](mailto:info@creative-biomart.com) Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA