

# Gene Snipper™ Cas9 NLS

**CATALOG#:** M1095-50 50 pmol (50 µl)  
M1095-250 250 pmol (25 µl)

**SOURCE:** Recombinant *Streptococcus pyogenes* Cas9 nuclease NLS protein (CRISPR associated protein 9) purified from *E. coli*

**MOLECULAR WEIGHT:** ~160 kDa

**PURITY:** The protein is at least 95% pure by SDS PAGE

**CONCENTRATION:** M1095-50 1000 nM  
M1095-250 10 µM

**FORM:** Colorless liquid

**COMPONENTS:**

Product Name	M1095-50	M1095-250	Part No.
Cas9 NLS	1000 nM	10 µM	M1095-XX-1
10X Cas9 Reaction Buffer	1.25 ml	1.25 ml	M1095-XX-2

**ENZYME STORAGE BUFFER:** 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM DTT, 300 mM NaCl, and 50% (v/v) Glycerol

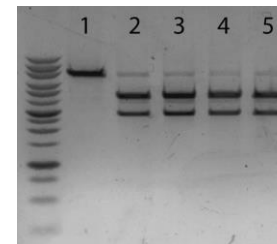
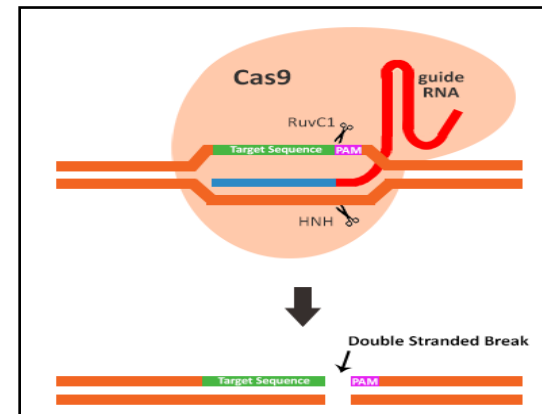
**10X CAS9 REACTION BUFFER:** 200 mM HEPES, 50 mM MgCl<sub>2</sub>, 1 M NaCl, 1 mM EDTA, pH 6.5.

**STORAGE CONDITIONS:** Store all components at -20°C. Avoid repeated freeze/thaw cycles. All components are stable for 1 year from the date of shipping when stored and handled properly.

**DESCRIPTION:** 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. Cas9 Nuclease nuclear localization sequence (NLS), *S. pyogenes*, is an RNA-guided endonuclease that catalyzes site-specific cleavage of double stranded DNA. Guided by a target-specific, single guide RNA (sg RNA), the Cas9 Nuclease NLS Protein serves to cleave both strands of a DNA duplex upon recognition of the target sequence by the sg 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. Cas9 Nuclease NLS contains a SV40 T antigen NLS on the

C-terminus of the protein. Incorporation of a nuclear localization signal (NLS) aids delivery to the nucleus, thus increasing the rate of genomic DNA cleavage.

**BIOLOGICAL ACTIVITY:** The activity of the protein in *in vivo* is confirmed by CRISPR Genome Cleavage Detection Kit.



**In vitro cleavage assay comparison using Cas9 Nuclease NLS Protein.** Lane 1: DNA+Cas9 (no sg RNA); Lane 2: DNA+Cas9 (sg RNA, 30 min); Lane 3: DNA+Competitor's Cas9+sg RNA (30 min); Lane 4: DNA+Cas9+sg RNA (1hr); Lane 5: DNA+Competitor's Cas9+sg RNA (1 hr).

**RELATED PRODUCTS:**

- Gene Snipper™ Cas9 Protein (Cat. No. M1094-50, -250)
- Gene Snipper™ Cas9 NLS (Cat. No. M1095-50, -250)
- Gene Snipper™ Cas9 Nickase (D10A) (Cat. No. M1096-50, -250)
- Gene Snipper™ Cas9 (D10A) NLS (Cat. No. M1097-50, -250)
- Gene Snipper™ Cas9 Nickase (H840A) (Cat. No. M1098-50, -250)
- Gene Snipper™ Cas9 (H840A) NLS (Cat. No. M1099-50, -250)
- Gene Snipper™ Cas9 Null (Cat. No. M1100-50, -250)
- Gene Snipper™ Cas9 Null NLS (Cat. No. M1103-50, -250)
- Gene Snipper™ CRISPR Activity Kit (Cat. No. K1104-25)

**FOR RESEARCH USE ONLY! Not to be used on humans.**