



saCas9 Nuclease NLS Protein

Store at -20 °C

| Cat. No. | Description | Concentration | Quantity |
|----------|-----------------------------|---------------|------------------|
| K045 | saCas9 Nuclease NLS Protein | 1000 nM | 50 pmol (50 µl) |
| K145 | saCas9 Nuclease NLS Protein | 10 µM | 250 pmol (25 µl) |

Product 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.

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 nuclease from the bacteria *Staphylococcus aureus*, abbreviated saCas9, is gaining popularity as an alternative to spCas9 due to its relatively smaller size. The saCas9 PAM sequence is 5'-NNGRRN (preferably 5'-NNGRRT). saCas9 Nuclease NLS contains a SV40 T antigen nuclear localization sequence (NLS) on the C-terminus of the protein.

Kit Components

| Part No. | Product Components | 50 pmol |
|----------|-----------------------------|----------|
| K045 | saCas9 Nuclease NLS Protein | 50 µl |
| K000 | 10X Cas9 Reaction Buffer | 1.25 mL |
| Part No. | Product Components | 250 pmol |
| K145 | saCas9 Nuclease NLS Protein | 25 µl |
| K000 | 10X Cas9 Reaction Buffer | 1.25 mL |

Product Source

Recombinant *E. coli*.

Storage Conditions

Store all components at -20 °C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for 1 year from the date of shipping when stored and handled properly.

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 Components

200 mM HEPES, 50 mM MgCl₂, 1 M NaCl, 1 mM EDTA, pH 6.5.

Reaction Conditions

Use 1X Cas9 Reaction Buffer and incubate at 37 °C.