

Cas9 Nuclease

Product description

Cas9 Nuclease is derived from the wild-type *Streptococcus pyogenes* and is an RNA-guided endonuclease that specifically cleaves double-stranded DNA (it can also cleave single-stranded DNA or RNA in the presence of a DNA PAM). The Cas9 cleavage site is located within the target sequence, three base pairs away from the PAM (NGG) region. Cas9 Nuclease has undergone codon optimization and design with a nuclear localization signal (NLS), and is expressed through recombinant expression in *Escherichia coli*. It exhibits high editing efficiency and can be used for gene modification in cells (such as hematopoietic stem cells, T cells, etc.), as well as for molecular diagnostics and pathogen detection.

Specifications

Cat.No.	14701ES60 / 14701ES76 / 14701ES03
Size	100 µg / 500 µg / 1 mg
Source	The Cas9 gene from <i>Streptococcus pyogenes</i> is expressed through recombinant expression in <i>Escherichia coli</i> .
Storage Buffer	30 mM Tris-HCl, 300 mM NaCl, 0.1 mM EDTA, 50% Glycerol, pH 7.4
Concentration	10 mg/mL
Purity	≥95%
Tag	His
Endotoxin	≤10 EU/mg

Components

Name	14701ES60	14701ES76	14701ES03
Cas9 Nuclease (10 mg/mL)	10 µL	50 µL	100 µL

Storage

This product should be stored at -25~-15°C for 1 years.

Instructions

RNP Preparation

1. Dissolve the sgRNA powder in 1x TE Buffer (pH 7.5) to a final concentration of 100 μ M, mix thoroughly by vortexing.
2. Prepare the following reaction mixture and mix well:

Components	Volume (μ L)
Cas9 Nuclease (10 mg/mL)	1.28
sgRNA (100 μ M)	2.34
PBS	1.38
Total	5

Note: The molar ratio of Cas9 Nuclease to sgRNA is approximately 1:3.

3. incubate at room temperature for 20 minutes.

Notes

1. To prevent RNase contamination, maintain a clean and tidy workspace, wear clean gloves and masks during operations, and use RNase-free consumables such as pipette tips and centrifuge tubes.
2. Avoid repeated freeze-thaw cycles. After the initial dissolution, it is recommended to aliquot and store according to intended usage.
3. This product is for research use only.
4. Please operate with lab coats and disposable gloves, for your safety.