



Cas9-Nickase-NLS

Product	Cat#	Package size
Cas9-Nickase-NLS (500ng/µL)	S5307.0010	10µg
Cas9-Nickase-NLS (500ng/µL)	S5307.0020	20µg
Cas9-Nickase-NLS (500ng/µL)	S5307.0040	40µg
Cas9-Nickase-NLS (500ng/µL)	S5307.0100	100µg

Product description

The Cas9-Nickase-NLS (Cas9n-NLS) was produced in *E. Coli*, expressing the *Streptococcus pyogenes* Cas9 gene (D10A mutation) fused to the nuclear localization sequence (NLS) from the Simian virus 40, and purified.

The functional activity of Cas9n-NLS was confirmed in vitro, and in the human osteosarcoma cell line U2OS.

Cas9n-NLS is over 95% pure based on Coomassie Blue detection after SDS polyacrylamide gel electrophoresis.

Product Specifications

Concentration:	500ng/µL
Molecular weight:	160 kDa
Storage buffer:	20mM HEPES, pH7.25, 150mM KCl, 1mM DTT

Application

The CRISPR/Cas9 system is a powerful technology, which allows directed changes of the genome in a wide spectrum of organisms.

Two components are required: the nuclease Cas9 and the guide (g)RNA, which targets Cas9 to the desired genomic location, where it generates a double-strand break, e.g. to cause a gene knock-out.

Cas9-Nickases, mutant forms of the Cas9 protein, only cleave the strand complementary to the gRNA, generating a nick in the double-stranded (ds)DNA. Therefore, Cas9-Nickases need to be complexed with two different gRNAs, targeting adjacent sites on opposite DNA strands to create a double-strand break. This paired nicking action was shown to reduce off-target effects by 50 to 1,000 fold compared with the nuclease activity of the wild-type Cas9 protein (Ran et al., 2013, Cell 154: 1380-1389).

Stability/Storage: Genaxxon bioscience Cas9-Nickase-NLS protein is shipped on wet ice but should be stored at -20°C.

Product Use Limitations

The Cas9-Nickase-NLS is developed, designed, and sold for research purposes only. It is not to be used for human, diagnostic or drug purposes or to be administered to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the appropriate regulatory authorities in the country of use. All due care and attention should be exercised in the handling of many of the materials described in this manual.

Safety information

This product does not require a Material Safety Data Sheet because it does neither contain more than 1% of a component classified as dangerous or hazardous nor more than 0.1% of a component classified as carcinogenic. However, we generally recommend, when working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles.

Genaxxon bioscience takes no liability for damage resulting from handling or contact with this product.

More information can be found in the REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL or contact Genaxxon bioscience (info@genaxxon.com)

Related products

Product	Cat#	Package size
Cas9-NLS-tagRFP protein	S5306	10µg; 20µg; 40µg; 100µg
Cas9-NLS-EGFP protein	S5325	10µg; 20µg; 40µg; 100µg
Cas9-Dead-NLS-EGFP protein	S5316	10µg; 20µg; 40µg; 100µg
Cas9-Nickase-NLS	S5307	10µg; 20µg; 40µg; 100µg
CRISPRfect E Transfektionsreagenz - 35µL	S5306	35µL
NoTarget gRNA	P2011	10µg