

# Cas9-NLS-EGFP protein

Product	Cat#	Package size
Cas9-NLS-EGFP protein (500ng/μL)	S5325.0010	10μg
Cas9-NLS-EGFP protein (500ng/μL)	S5325.0020	20μg
Cas9-NLS-EGFP protein (500ng/μL)	S5325.0040	40μg
Cas9-NLS-EGFP protein (500ng/μL)	S5325.0100	100μg

## Product description

The Cas9-NLS-EGFP was produced in *E. Coli*, expressing the *Streptococcus pyogenes* Cas9 gene and purified. The Cas9-NLS-EGFP contains no other tags than the nuclear localization sequence (NLS) PKKKRKV from the Simian virus 40 followed by the C-terminal EGFP (enhanced green fluorescent protein)-tag. The functional activity of Cas9-NLS-EGFP was confirmed in vitro and in cell culture

Cas9-NLS-EGFP is over 95% pure based on Coomassie Blue detection after SDS polyacrylamide gel electrophoresis.

## Product Specifications

Concentration:	500ng/μL
Molecular weight:	188.1 kDa
Excitation/Emission Max.:	489nm/509nm
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. Fusion with the NLS directs the Cas9 protein to the nucleus. Complexed with single-strand guide (g)RNA, Cas9-NLS-EGFP binds DNA, if two conditions are met:

1. The protospacer adjacent motif (PAM) sequence NGG is present.
2. Immediately upstream of the PAM, the sequence on the opposite DNA strand is complementary to the 20-nt targeting sequence of the gRNA.

The C-terminal EGFP allows selection of transfected cells via fluorescence-activated cell sorting, thereby enriching for cells with the desired mutation. Cell should be sorted 6 - 24h post transfection.

Delivering Cas9 as a ribonucleoprotein (= complexed with gRNA) to the cells is less toxic, leads to fewer off-target effects and yields higher insertion/deletion frequencies than plasmid- and mRNA-based approaches (Nat. Biotechnol. (2015) doi: 10.1038/nbt.3290; J. Biotechnol. 208 (2015): 44-53; Genome Res. 24 (2014): 1012-1019).

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

## Product Use Limitations

The Cas9-NLS-EGFP 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](mailto: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