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32-6690: CAS9 S. Pyogenes

Alternative Name : CRISPR-associated endonuclease Cas9/Csn1, SpyCas9, cas9, csn1.

Description

Source: Escherichia Coli.
Sterile Filtered colorless solution.
Cas9 (CRISPR associated protein 9) is an RNA-guided DNA endonuclease enzyme associated with the CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) adaptive immunity system in Streptococcus pyogenes, among other bacteria. S. Pyogenes utilizes Cas9 to remember and later probe and cleave foreign DNA, such as invading bacteriophage DNA or plasmid DNA. In case that the DNA substrate is complementary to the guide RNA, Cas9 cleaves the invading DNA. In addition to its original role in bacterial immunity, the Cas9 protein has been heavily employed as a genome engineering tool to induce site-directed double strand breaks in DNA. These disruptions may lead to gene inactivation or the presentation of heterologous genes via non-homologous end joining and homologous recombination respectively in many laboratory model organisms.
Recombinant Cas9-NLS produced in E.coli, comprises the entire Cas9 protein sequence (1368 amino acids) joined to a proprietary nuclear localization sequence (NLS) and a 6xHis tag at the C-terminus, having a total of 1414 amino acids. The protein has an apparent molecular weight of 163kDa.

Product Info

Amount :	50 µg / 100 µg
Purification :	Greater than 90% as determined by SDS-PAGE.
Content :	The CAS9 solution contains 10mM Tris-HCl, 300mM NaCl, 0.1mM EDTA, 50% glycerol and 1mM DTT pH 7.5.
Storage condition :	Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.

For Research Use Only. Not for use in diagnostic/therapeutics procedures.