ArciTect™ Cas9-eGFP Nuclease

Enhanced green fluorescent protein (eGFP)-tagged Cas9 nuclease for the generation of double-strand breaks in CRISPR-Cas9 genome editing

Catalog # 76006 100 µg 3 µg/µL

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Product Description

ArciTect™ Cas9-eGFP Nuclease is a fusion protein consisting of enhanced green fluorescent protein (eGFP) and the wild-type Cas9 recombinant protein from *Streptococcus pyogenes*; it contains a C-terminal-linked eGFP molecule. ArciTect™ Cas9-eGFP Nuclease requires association with a guide RNA—e.g. ArciTect™ sgRNA (Catalog #200-0013) or a duplex composed of ArciTect™ tracrRNA (Catalog #76016) and ArciTect™ crRNA (Catalog #76010)—to form a ribonucleoprotein (RNP) complex. This RNP complex creates double-strand breaks at site-specific locations in the genome. ArciTect™ Cas9-eGFP Nuclease also contains a nuclear localization signal at the N-terminus, ensuring that the RNP complex translocates to the nucleus, thereby increasing the efficiency of genome editing. As the RNP complex is fully functional upon transfection, it allows for immediate activity following translocation to the nucleus. The RNP complex is degraded over 48 hours, allowing sufficient time for genome editing to occur while reducing off-target effects that can be caused by the continuous presence of the RNP complex. Using the RNP system also circumvents the laborious process of generating stable Cas9-expressing cell lines, saving time and reducing the risk of off-target effects due to leaky inducible expression systems. The *S. pyogenes* Cas9 uses the protospacer adjacent motif (PAM) sequence NGG (where N can be any nucleotide). The enzyme will not cleave without a genomic PAM site downstream of the target sequence.

Properties

Storage:	Store at -20°C. Protect product from prolonged exposure to light.
Shelf Life:	Stable for 3 years from date of manufacture (MFG) on label.
Formulation:	10 mM Tris buffer, 300 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% glycerol, pH 7.4
Molecular Weight:	190 kDa

Directions for Use

For complete instructions on CRISPR-Cas9 genome editing, refer to the Technical Bulletin: Genome Editing of Human Pluripotent Stem Cells (Document #27084), available at www.stemcell.com or contact us to request a copy.

Related Products

For related products, including other genome editing tools, specialized cell culture and storage media, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com or contact us at techsupport@stemcell.com.

References

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