

Lba Cas12a (Cpf1) Nuclease

Summary

Catalog No. YXX26701

Alternative Names CRISPR-associated endonuclease Cas12a, CRISPR-associated endonuclease Cpf1, Lba Cas12a (Cpf1), Lb

Form Liquid

Purity >90% as determined by SDS-PAGE.

Applications Genome Editing, DNA Detection, CRISPR Diagnostics

Endotoxin level Please contact with the lab for this information.

Nature Recombinant

Stability and Storage Store at -20°C for twelve months from the date of receipt.

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decoration:none /><math>\left( \frac{1}{\sqrt{2}} + i \frac{1}{\sqrt{2}} \right)^n</math>
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Species Lachnospiraceae bacterium ND2006

Shipping In general, proteins are provided as lyophilized powder/frozen liquid. They are shipped out with dry ice.

Note For research use only.

Description

Lba Cas12a nuclease is derived from Lachnospiraceae bacterium ND2006 and is a site-specific DNA endonuclease mediated by a single-guide RNA (gRNA) with a length of 41-44 nucleotides. In the presence of a PAM (TTTN) sequence on the target double-stranded DNA, LbCas12a specifically cleaves the target dsDNA, resulting in double-strand breaks and the generation of sticky ends. In contrast, the specific cleavage of single-stranded DNA targets by LbCas12a does not require a PAM sequence. \r\n Lba Cas12a contains simian virus 40 (SV40) T antigen nuclear localization sequences (NLS) at both the N-terminus and C-terminus. When Cas12a is expressed with these NLS sequences, the Cas12a-RNP complex can rapidly localize to the nucleus upon cellular entry. \r\n Additionally, both double-stranded and single-stranded DNA targets can activate the trans-cleavage activity of LbCas12a. Specifically, upon formation of a ternary complex among the LbCas12a enzyme, crRNA, and target DNA, the enzyme becomes activated and exhibits non-specific trans-cleavage activity, degrading any single-stranded DNA (ssDNA) present in the system. Consequently, LbCas12a can not only be used for specific cleavage of dsDNA in vitro but also enables rapid detection of target nucleic acids.

Data Image
