

Recombinant AsCas12a Nuclease

Catalog No.: RPT0034LQ **Recombinant**

Sequence Information

Species **Gene ID** **Swiss Prot**
Acidaminoco U2UMQ6
ccus sp.
BV3L6

Tags

No tag

Synonyms

AsCas12a; Cas12a; CRISPR-associated endonuclease Cas12a; cpf1; AsCpf1

Product Information

Source **Purification**
E. coli > 95% by Tris-Bis
 PAGE and HPLC.

Calculated MW **Observed MW**
 155.3 kDa 130-150 kDa

Endotoxin

< 10 EU/mg of the protein by LAL method.

Formulation

Supplied as a 0.22 µm filtered solution of 20 mM Tris-HCl, 300 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% Glycerol, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Contact

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Background

AsCas12a (previously AsCpf1) was characterized as an RNA-guided endonuclease capable of efficient mammalian genome-editing activity in 2015. And it has subsequently become a staple in the CRISPR toolbox. Recognizing a thymine-rich 5'-TTTV-3' PAM on the 5' side of the protospacer (on the non-target strand), AsCas12a utilizes a single catalytic site to cleave RNA-complementary double-stranded DNA (cis cleavage), as well as indiscriminately cleave single-stranded DNA (trans cleavage), upon RNA-guided DNA binding. This has led to its use in rapid and highly sensitive nucleic acid detection. AsCas12a and related orthologs LbCas12a and FnCas12a generate staggered cuts within the protospacer but distal to the PAM. Because AsCas12a does not require tracrRNA and can process the CRISPR array into crRNAs internally, it is a good tool for multiplex editing.

Basic Information

Description

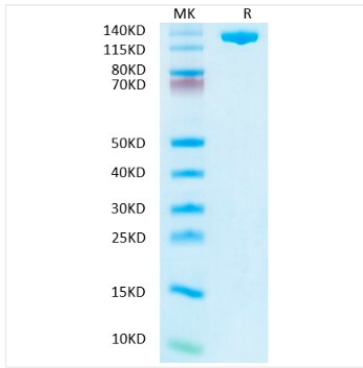
Recombinant AsCas12a Nuclease is produced by *E. coli* expression system. The target protein is expressed with sequence (Met1- Asn1307) of *Acidaminococcus sp. BV3L6* Cas12a (Accession #U2UMQ6) fused with no tag.

Bio-Activity

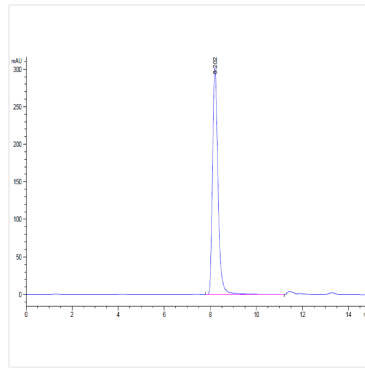
Storage

Store at -20°C. This product is stable at -20°C to -80°C up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature. Avoid repeated freeze-thaw cycles. Avoid repeated freeze/thaw cycles.

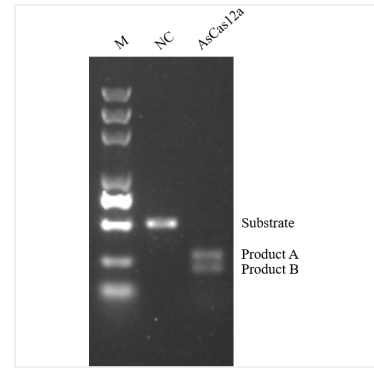
Validation Data



Recombinant AsCas12a Nuclease was determined by SDS-PAGE with Coomassie Blue, showing a band at 130-150 kDa.



The purity of Recombinant AsCas12a detected by SEC-HPLC is greater than 95%.



More than 95% of substrates can be cleaved by AsCas12a.