

CcaCas13b

Recombinant protein expressed in *E. coli* cells

Catalog # CS13B-E311H

Lot # 1F2340-1

Product Description

Recombinant *Capnocytophaga canimorsus* CcaCas13b protein with a His tag expressed in *E. coli*. Cas13 enzyme is sold with 1ml of Cas13 reaction buffer II, 10X (CS13-09B).

Accession number: [WP_013997271](#)

Alternative name (s)

Type VI-B CRISPR-associated RNA-guided ribonuclease
Cas13b, cas13b

Formulation

Recombinant protein stored in 50mM Tris, pH7.5, 600mM NaCl, 0.1mM TCEP, and 50% glycerol.

Storage and Stability

Store at -20°C. To avoid repeated handling and multiple freeze/thaw cycles aliquot product into smaller quantities.

Always include RNase inhibitor at manufacturer recommended concentrations in Cas enzyme reactions.

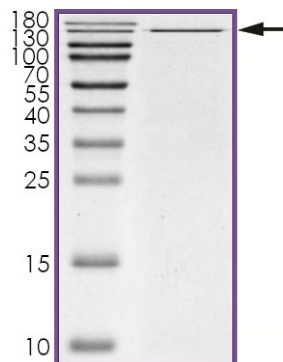
Scientific Background

CRISPR-Cas systems constitute the adaptive immune system in bacteria via RNA-guided endonucleases (1,2). This system has been leveraged to create an exemplary genome editing tool with applications in both basic research and therapeutics development (3). PsmCas13b is a CRISPR-Cas effector that belongs to the class 2 subtype VI-B (3). It processes its own CRISPR array with short and long direct repeats, cleaves target RNA, and exhibits collateral RNase activity (3). It has been shown to effectively target and silence distinct mammalian ssRNA viruses (4).

References

1. Horvath, P., et al. 2010. CRISPR/Cas, the immune system of bacteria and archaea. *Science*, 327(5962):167-170.
2. Morange, M. 2015. What history tells us XXXVII. CRISPR-Cas: The discovery of an immune system in prokaryotes. *J. Biosci.* 40(2):221-223.
3. Smargon, A. A., et al. 2017. Cas13b is a Type VI-B CRISPR-associated RNA-Guided RNase differentially regulated by accessory proteins Csx27 and Csx28. *Mol. Cell.* 65(4):618-630.
4. Freije, C. A., et al. 2019. Programmable Inhibition and Detection of RNA Viruses Using Cas13. *Mol. Cell.* 76(5):826-837.

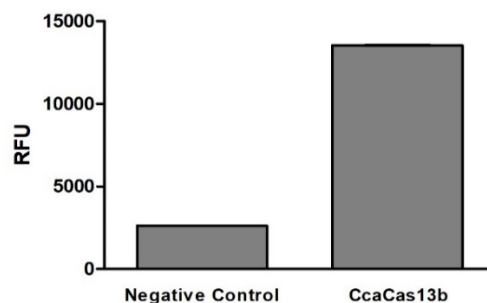
Purity



SDS-PAGE gel image

The purity of CcaCas13b was determined to be >90% by densitometry
Calculated MW: 144.7 kDa
Observed MW: ~130 kDa

Activity



CcaCas13b activity assayed using a fluorogenic substrate and 100nM of enzyme as per the Cas13 Activity Assay Protocol provided below.

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Purity >90%

Concentration 1.0 µg/µl

6.9 pmol/µg

Stability 1yr at -20°C from date of shipment

Storage & Shipping Store at -20°C. To avoid repeated handling and multiple freeze/thaw cycles aliquot product into smaller quantities.
Product shipped on ice pack.

To place your order, please contact us by phone 1-778-326-0223 or 1-888-606-3424 (Toll free) or by email: orders@signalchemdx.com or info@signalchemdx.com - www.signalchemdx.com

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