

Product Name: CcaCas13b

Catalog # CS13B-E311H

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

Alternate Names

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

Source

: *Capnocytophaga canimorsus*

Accession Numbers

: Genbank: [WP_013997271](#)

Host

: *E. coli*

Formulation

: Protein stored in 50 mM Tris, pH 7.5, 600 mM NaCl, 0.1 mM TCEP, and 50% glycerol

Molecular Weight

: Calculated: 144.7 kDa

Observed: ~130 kDa

Concentration

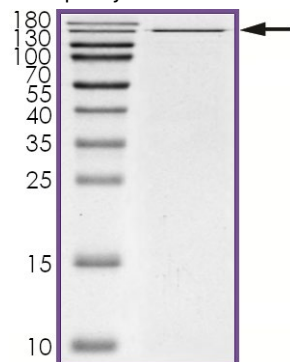
: 1.0 µg/µL

6.9 pmol/μg

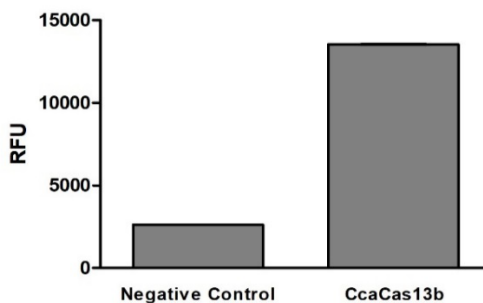
Purity

: The purity was determined to be >90% by densitometry

Gel Image



Activity



CcaCas13b activity assayed using a fluorogenic substrate and 100 nM enzyme according to the activity assay protocol.

Recommendation

: Always include RNase inhibitor at 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). CcaCas13b is an effector protein that belongs to the Class 2 subtype VI-B CRISPR-Cas system (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.