

SPECIFICATION SHEET

Product Name: PsmCas13b
Catalog # CS13B-E312H

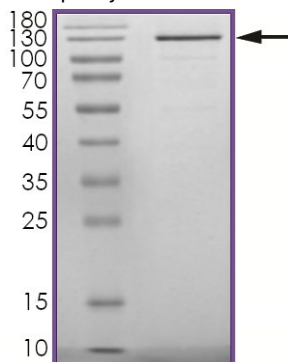
Product Description: Recombinant full-length *Prevotella* sp. PsmCas13b protein with a His tag expressed in *E. coli*. Enzyme supplied with 1 mL of Cas13 reaction buffer II, 10x (CS13-09B).

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

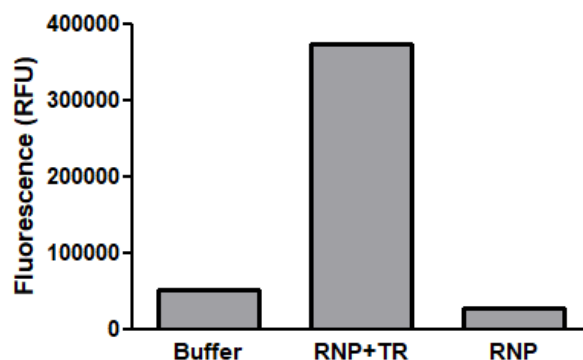
Data for a Sample Lot:

Alternate Names	: CRISPR-associated ribonuclease Cas13b
Source	: <i>Prevotella</i> sp.
Accession Numbers	: Genbank: WP_036929175.1
Host	: <i>E. coli</i>
Formulation	: Protein stored in 25 mM Tris, 300 mM NaCl, pH 7.5, 50% glycerol, 0.1 mM TCEP
Molecular Weight	: Calculated: 156.7 kDa Observed: ~155 kDa
Concentration	: 1.0 µg/µL 6.26 pmol/µg
Purity	: The purity was determined to be >90% by densitometry

Gel Image



Activity



PsmCas13b collateral cleavage activity assayed using a fluorogenic substrate and 50 nM enzyme according to the activity assay protocol. RNP denotes the Cas13-sgRNA ribonucleoprotein complex. TR denotes target ssRNA.

Recommendation**Scientific Background****References**

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

: 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 Class 2 subtype VI-B CRISPR-Cas effector (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).

- : 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.