CRISPR-Cas13a Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2608C
Catalog Number: MAB10463

DESCRIPTION

Specificity	Detects CRISPR-Cas13a in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2608C
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived recombinant CRISPR-Cas13a Ser2-Asn1300 Accession # WP_003034647
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

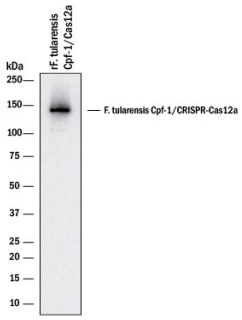
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant *Francisella tularensis* protein

DATA

Western Blot



Detection of CRISPR-Cas13a by Western Blot. Western blot shows recombinant Francisella tularensis protein. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-CRISPR-Cas13a Monoclonal Antibody (Catalog # MAB10463) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for CRISPR-Cas13a at approximately 143 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)-associated endonuclease from Prevotella and Francisella 1, Cpf1, also known as Cas12a, is a 1200-1500 amino-acids long monomeric protein that belongs to the CRISPR/Cas system (1, 2), an adaptive immune system of prokaryotes that has now become a powerful tool for genome editing (3). CRISPR/Cpf1 belongs the class II (type 5) of the CRISPR/Cas system that is defined by a single-subunit effector (4). Cpf1 has recently emerged as an alternative for Cas9, due to its distinct features (2, 5) such as the ability to target T-rich motifs, no need for trans-activating crRNA, inducing a staggered double-strand break and potential for both RNA processing and DNA nuclease activity. In addition, Cpf1 is able to process more structured pre-CRISPR/RNA(crRNA) molecules into mature crRNAs (6) which allows the possibility to use both mature or pre-crRNA for genome editing purposes(7). All these features make the CRISPR-Cpf1 system a valuable genome-engineering tool (8). CRISPR-Cpf1(Cas12a) has been successfully used to edit genomes in mammalians cells (2), plants (9), mice (10), Drosophila (11) and recently zebrafish and Xenopus (7). Two Cpf1 orthologs have been commonly used for genome editing in different organisms: AsCpf1 and LbCpf1, which are derived from Acidaminococcus sp. BV3L6 and Lachnospiraceae bacterium ND2006, respectively (8).The attached nuclear localization signals (NLSs) on the chimeric protein ensures nuclear compartmentalization in cells during gene editing (12).

References:

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