

Recombinant Rat CD38 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52514

Size: 10ug, 100ug

Protein Name: ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1 (EC 3.2.2.-) (EC 3.2.2.6) (2'-phospho-ADP-ribosyl cyclase) (2'-phospho-ADP-ribosyl cyclase/2'-phospho-cyclic-ADP-ribose transferase) (EC 2.4.99.20) (2'-phospho-cyclic-ADP-ribose transferase) (ADP-ribosyl cyclase 1) (ADPRC 1) (CD38H) (Cyclic ADP-ribose hydrolase 1) (cADPR hydrolase 1) (CD antigen CD38)

Synonym: Cd38

UniProt ID: Q64244

UniProt Link: www.uniprot.org/uniprotkb/Q64244/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 303 AA

Molecular Weight: 34 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MANYEFSQVSEDRPGCRLTRKAQIGLVGLLLLVALVVVVVIVLWPRSPLVWKGKPTTKHFADIILGR
CLITYQILRPEMRDQDCKKILSTFKRGFISKNPCNITNEDYAPLVKLVLTQTIPCNKTLFWSKSKHLAHQ
YTWIQGKMFTLEDTLGYIADDLRWCGDPSTSDMNYDSCPHWSENCNNPVAVFWNVISQKFAED
ACGVVQVMLNGSLSEPFYRNSTFGSVEVFNLDPNKVHKLQAWVMHDIKGTSSNACSSPSINELKSIV
NKRNMIFACQDNYPVRFLQCVKNPEHPSCRLNV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1 (EC 3.2.2.-) (EC 3.2.2.6) (2'-phospho-ADP-ribosyl cyclase) (2'-phospho-ADP-ribosyl cyclase/2'-phospho-cyclic-ADP-ribose transferase) (EC 2.4.99.20) (2'-phospho-cyclic-ADP-ribose transferase) (ADP-ribosyl cyclase 1) (ADPRC 1) (CD38H) (Cyclic ADP-ribose hydrolase 1) (cADPR hydrolase 1) (CD antigen CD38) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Multifunctional transmembrane glycoprotein able to exert enzymatic activities and also to mobilize calcium, to transduce signals, to adhere to hyaluronan and to other ligands. Synthesizes cyclic ADP-ribose (cADPR), a second messenger for glucose-induced insulin secretion. Synthesizes the Ca(2+) mobilizer nicotinate-adenine dinucleotide phosphate, NAADP(+), from 2'-phospho-cADPR and nicotinic acid, as well as from NADP(+) and nicotinic acid (PubMed:11829748). At both pH 5.0 and pH 7.4 preferentially transforms 2'-phospho-cADPR into NAADP(+), while preferentially cleaving NADP(+) to cADPR and ADPRP rather than into NADDP(+). Has cADPR hydrolase activity. Functions also as a receptor that binds the ligand CD31 on endothelial cells, promoting lymphocyte activation, proliferation, and migration across the endothelial barrier. Involved in the regulation of crucial dendritic cell functions acquired at the mature stage, such as CCL21-driven migration, survival, and Th1-polarizing activity. In lamina propria T lymphocytes, CD38/CD31 cognate interactions initiate a multistep signaling pathway resulting in activation of LCK and LAT, followed by cytokine release.; Regulates osteoclastic bone resorption, probably via production of cyclic ADP-ribose and triggering of a cytosolic calcium ion signal through ryanodine receptor activation.

Subcellular Localization: Cell membrane ; Single-pass type II membrane protein.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.