

Recombinant Mouse CD5 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51271

Size: 10ug, 100ug

Protein Name: T-cell surface glycoprotein CD5 (Lymphocyte antigen 1) (Ly-1) (Lyt-1) (CD antigen CD5)

Synonym: Cd5, Ly-1

UniProt ID: P13379

UniProt Link: www.uniprot.org/uniprotkb/P13379/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 494 AA

Molecular Weight: 54 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDSHEVLLAATYLLGTAAFLGQSGRGGLDIQVMLSGSNSKQCQGQVEIQMENKWKTVCSSSWRL
SQDHSKNAQQASAVCKQLRCGDPLALGPFPSLNRPQNQVFCQGSPWSISNCNNTSSQDQCLPLSL
ICLEPQRTTPPTTTPTTVPEPTAPPRLQLVPGHEGLRCTGVVEFYNGSWG GTILYKAKDRPLGLG
NLICKSLQCGSFLTHLSGTEAAGTPAPAE LRDPRLPIRWEAPNGSCVSLQQCFQKTTAQEGGQALT
VICSDFQPKVQSRLVGGSSVCEGIAEVRQRSQWEALCDSSAARGRGRWEELCREQQCGDLISFHT
VDADKTSPGFLCAQEKLSCQCYHLQKKKHCNKR VFVTCQDPNPAGLAPGTVASIILTLVLLVLLAMC
GPLVYKKLVKKFRQKKQRQWIGPTGVNQNM SFHRSHTATVRSQVENPTASHVDNEYSQPPRNSHL
SAYPALEGALHRSSTQPDNSSDSYDLQVAQRL

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 T-cell surface glycoprotein CD5 (Lymphocyte antigen 1) (Ly-1) (Lyt-1) (CD antigen CD5) 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: Lymphoid-specific receptor expressed by all T-cells and in a subset of B-cells known as B1a cells. Plays a role in the regulation of TCR and BCR signaling, thymocyte selection, T-cell effector differentiation and immune tolerance (PubMed:35720357). Acts by interacting with several ligands expressed on B-cells such as CD5L or CD72 and thereby plays an important role in contact-mediated, T-dependent B-cell activation and in the maintenance of regulatory T and B-cell homeostasis (PubMed:24950378, PubMed:9064341, PubMed:9723705). Functions as a negative regulator of TCR signaling during thymocyte development by associating with several signaling proteins including LCK, CD3Z chain, PI3K or CBL (PubMed:11157848). Mechanistically, co-engagement of CD3 with CD5 enhances phosphorylated CBL recruitment leading to increased VAV1 phosphorylation and degradation (By similarity). Modulates B-cell biology through ERK1/2 activation in a Ca(2+)-dependent pathway via the non-selective Ca(2+) channel TRPC1, leading to IL-10 production (By similarity).

Subcellular Localization: Cell membrane; Single-pass type I 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.