

Recombinant Mouse CLC4E Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51971

Size: 10ug, 100ug

Protein Name: C-type lectin domain family 4 member E (C-type lectin superfamily member 9) (Macrophage-inducible C-type lectin) (Mincle)

Synonym: Clec4e, Clecsf9, Mincle

UniProt ID: Q9R0Q8

UniProt Link: www.uniprot.org/uniprotkb/Q9R0Q8/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 214 AA

Molecular Weight: 24 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNSTKSPASHHTERGCFKNSQVLSWTIAGASILFLSGCFITRCVVITYRSSQISGQNLQPHRNIKELSC
YSEASGSVKNCCLNWKHYQSSCYFFSTTTLTWSSSLKNCSDMGAHLVVIDTQEEQEFLFRTKPKR
KEYYIGLTDQVVEGQWQWVDDTPFTESLSFWDAGEPNINVLVEDCATIRDSSNSRKNWNDIPCFYS
MPWICEMPEISPLD

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 C-type lectin domain family 4 member E (C-type lectin superfamily member 9) (Macrophage-inducible C-type lectin) (Mincle) 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: Calcium-dependent lectin that acts as a pattern recognition receptor (PRR) of the innate immune system: recognizes damage-associated molecular patterns (DAMPs) of abnormal self and pathogen-associated molecular patterns (PAMPs) of bacteria and fungi (PubMed:18490740, PubMed:18509109, PubMed:18776906, PubMed:19171887, PubMed:20008526, PubMed:23602766). The PAMPs notably include mycobacterial trehalose 6,6'-dimycolate (TDM), a cell wall glycolipid with potent adjuvant immunomodulatory functions (PubMed:20008526, PubMed:23602766). Interacts with signaling adapter Fc receptor gamma chain/FCER1G to form a functional complex in myeloid cells (PubMed:18776906, PubMed:23602766). Binding of mycobacterial trehalose 6,6'-dimycolate (TDM) to this receptor complex leads to phosphorylation of the immunoreceptor tyrosine-based activation motif (ITAM) of FCER1G, triggering activation of SYK, CARD9 and NF-kappa-B, consequently driving maturation of antigen-presenting cells and shaping antigen-specific priming of T-cells toward effector T-helper 1 (Th1) and T-helper 17 (Th17) cell subtypes (PubMed:23602766). Also recognizes alpha-mannose residues on pathogenic fungi of the genus *Malassezia* and mediates macrophage activation (PubMed:19171887). Through recognition of DAMPs released upon nonhomeostatic cell death, enables immune sensing of damaged self and promotes inflammatory cell infiltration into the damaged tissue (PubMed:18776906).

Subcellular Localization: Cell membrane ; Single-pass type II membrane protein . Cell projection, phagocytic cup .

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.