

Recombinant Human M4K2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50657

Size: 10ug, 100ug

Protein Name: Mitogen-activated protein kinase kinase kinase 2 (EC 2.7.11.1) (B lymphocyte serine/threonine-protein kinase) (Germinal center kinase) (GC kinase) (MAPK/ERK kinase kinase kinase 2) (MEK kinase kinase 2) (MEKKK 2) (Rab8-interacting protein)

Synonym: MAP4K2, GCK, RAB8IP

UniProt ID: Q12851

UniProt Link: www.uniprot.org/uniprotkb/Q12851/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 820 AA

Molecular Weight: 92 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MALLRDVSLQDPRDRFELLQRVGAGTYGDVYKARDTVTSELAAVKIVKLDPGDDISSLQQEITILREC
RHPNVVAYIGSYLRNDRLWICMEFCGGGSLQEYHATGPLEERQIAYVCREALKGLHHLHSQGKIHR
DIKGANLLLTLQGDVKLADFGVSGELTASVAKRRSFIGTPYWMAPEVAAVERKGGYNELCDVWALGI
TAIELGELQPPLFHLHPMRALMLMSKSSFQPPKLRDKTRWTQNFHHFLKLALTKNPKKRPTAEKLLQ
HPFTTQQQLPRALLTQLLDKASDPHLGTPSPEDCELETYDMFPDTIHSRGQHGAERTPSEIQFHQVK
FGAPRRKETDPLNEPWEEEWTLGKEELSGSLLQSVQEALERSLTIRSASEFQELDSPDDTMGTIK
RAPFLGPLPTDPPAEPLSSPPGTLPPPPSGPNSSPLLPTAWATMKQREDPERSSCHGLPPTPKVH
MGACFSKVFNGCPLRIHAAVTWIHPVTRDQFLVVGAEAGIYTLNLHELHEDTLEKLISHRCSWLYCVN
NVLLSLSGKSTHIWAHDLPLGFEQRRLLQQQVPLSIPTNRLTQRIIPRRFALSTKIPDTKGCLQCRVVRN
PYTGATFLLAALPTSLLLLQWYEPLQKFLLLKNFSSPLPSPAGMLEPLVLDGKELPQVCVGAEGPEG
PGCRVLFHVLPLEAGLTPDILIPPEGIPGSAQQVIQVDRDITLVSFERCVRIVNMQGEPTATLAPELTF
DFPIETVVCLQDSVLAFWSHGMQGRSLDTNEVTQEITDETIRFVLGAHRDIILES IPTDNPEAHSNLYI
LTGHQSTY

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 Mitogen-activated protein kinase kinase kinase 2 (EC 2.7.11.1) (B lymphocyte serine/threonine-protein kinase) (Germinal center kinase) (GC kinase) (MAPK/ERK kinase kinase kinase 2) (MEK kinase kinase 2) (MEKKK 2) (Rab8-interacting protein) 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: Serine/threonine-protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Acts as a MAPK kinase kinase (MAP4K) and is an upstream activator of the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway and to a lesser extent of the p38 MAPKs signaling pathway. Required for the efficient activation of JNKs by TRAF6-dependent stimuli, including pathogen-associated molecular patterns (PAMPs) such as polyinosine-polycytidine (poly(IC)), lipopolysaccharides (LPS), lipid A, peptidoglycan (PGN), or bacterial flagellin. To a lesser degree, IL-1 and engagement of CD40 also stimulate MAP4K2-mediated JNKs activation. The requirement for MAP4K2/GCK is most pronounced for LPS signaling, and extends to LPS stimulation of c-Jun phosphorylation and induction of IL-8. Enhances MAP3K1 oligomerization, which may relieve N-terminal mediated MAP3K1 autoinhibition and lead to activation following autophosphorylation. Also mediates the SAP/JNK signaling pathway and the p38 MAPKs signaling pathway through activation of the MAP3Ks MAP3K10/MLK2 and MAP3K11/MLK3. May play a role in the regulation of vesicle targeting or fusion. regulation of vesicle targeting or fusion. Activator of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. MAP4Ks act in parallel to and are partially redundant with STK3/MST2 and STK4/MST2 in the phosphorylation and activation of LATS1/2, and establish MAP4Ks as components of the expanded Hippo pathway (PubMed:26437443).

Subcellular Localization: Cytoplasm . Basolateral cell membrane ; Peripheral membrane protein . Golgi apparatus membrane ; Peripheral 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.