

Recombinant Mouse TAOK3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51745

Size: 10ug, 100ug

Protein Name: Serine/threonine-protein kinase TAO3 (EC 2.7.11.1) (Thousand and one amino acid protein 3)

Synonym: Taok3

UniProt ID: Q8BYC6

UniProt Link: www.uniprot.org/uniprotkb/Q8BYC6/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 898 AA

Molecular Weight: 105 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRKGALKDPEIADLFFKDDPEELFIDLHEIGHGSFGAVYFATNAHTNEVVAVKKMSYSGKQTHEKWQ
DILKEVKFLQQLKHPNTIEYKGCYLKEHTAWLVM EYCLGSASDLLEVHKKPLQEVEIAAITHGALQGL
AYLHFHSLIHRDIKAGNILLTEPGQVKLADFGSASMASPANSFVGTPYWMAPEVILAMDEGQYDGKV
DIWSLGITCIELAERKPPLFNMNAMSALYHIAQNDSPTLQSREWTD SFRRFVDYCLHKIPQERPAAVE
LLRHDFIRRERPPKVLIDLIQRTKDAVRELDNLQYRKMKKILFQETRNGPLNESQEEEEEDGEQGSNLN
REVDLSGSIHSIPSTSVSTGSRSSSVNSMQEVMDESSSELVMMQEDEGTANSSASTVHKKDHVFVR
DEAGHGDP RPEPRPTQSVQSRALHYRNRERFATIKSASLVTRQIHEHEQENELREQMSGYKRMRR
QHQQQLIALENKLKAEMDEHRLKLQKEVETHANNSSIELEKLAKKQVATIEKEAKVAAADEKKFQQQI
LAQQKKDLTTFLESQKKQYKICKEKIKEEMNEDHSTPKKEKQERISKHKENLQHTQAE EEAHLLTQQ
RLYYDRNCRFFKRKIMIKRHEVEQQNIREELNKKRTQKEMEHAMLI RHDESTRELEYRQLHTLQKLR
MDLIRLQHQT ELENQLEYNKRERELHRKHVMELRQQPKNLKAMEMQIKKQFQDTCKVQTKQYKAL
KNHQLEVTPKNEHKAILKTLKDEQTRKLAILAEQYEQSINEMMASQALRLDEAQEAECQALRLQLQQ
EMELLNAYQSKIKMQTEAQHERELQKLEQRVSLRRAHLEQKIEEEL AALQKERSERIKTLERQERET
ETFDMESLRMGFGNLVTLDFPKEDYR

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 Serine/threonine-protein kinase TAO3 (EC 2.7.11.1) (Thousand and one amino acid protein 3) 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 that acts as a regulator of the p38/MAPK14 stress-activated MAPK cascade and of the MAPK8/JNK cascade (By similarity). In response to DNA damage, involved in the G2/M transition DNA damage checkpoint by activating the p38/MAPK14 stress-activated MAPK cascade, probably by mediating phosphorylation of upstream MAP2K3 and MAP2K6 kinases (By similarity). Inhibits basal activity of the MAPK8/JNK cascade and diminishes its activation in response to epidermal growth factor (EGF) (By similarity). Positively regulates canonical T cell receptor (TCR) signaling by preventing early PTPN6/SHP1-mediated inactivation of LCK, ensuring sustained TCR signaling that is required for optimal activation and differentiation of T cells (By similarity). Phosphorylates PTPN6/SHP1 on 'Thr-394', leading to its polyubiquitination and subsequent proteasomal degradation (By similarity). Required for cell surface expression of metalloprotease ADAM10 on type 1 transitional B cells which is necessary for their NOTCH-mediated development into marginal zone B cells (PubMed:28068307). Also required for the NOTCH-mediated terminal differentiation of splenic conventional type 2 dendritic cells (PubMed:33214146). Positively regulates osteoblast differentiation by acting as an upstream activator of the JNK pathway (PubMed:32807497). Promotes JNK signaling in hepatocytes and positively regulates hepatocyte lipid storage by inhibiting beta-oxidation and triacylglycerol secretion while enhancing lipid synthesis (By similarity). Restricts age-associated inflammation by negatively regulating differentiation of macrophages and their production of pro-inflammatory cytokines (PubMed:37400834). Plays a role in negatively regulating the abundance of regulatory T cells in white adipose tissue (PubMed:37347461).

Subcellular Localization: Cytoplasm . Cell membrane ; Peripheral membrane protein . Membrane raft . Lipid droplet . Note=Located primarily outside cell membrane rafts and remains outside upon canonical TCR ligation (By similarity). A small pool is detectable in cell membrane rafts in resting conditions but relocates outside the rafts upon TCR signaling (By similarity). Localizes to lipid droplets in hepatocytes (PubMed:34634521).

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.