

Recombinant Mouse TYK2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51973

Size: 10ug, 100ug

Protein Name: Non-receptor tyrosine-protein kinase TYK2 (EC 2.7.10.2)

Synonym: Tyk2

UniProt ID: Q9R117

UniProt Link: www.uniprot.org/uniprotkb/Q9R117/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1184 AA

Molecular Weight: 133 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MVGTMPLCGRRRAILEDKADGTEAQPLVPTGCLMVLLHWPGPEGGEPPWVTFSSQTSLTAEVCIHIA
HKVGITPPCLNLFALYNAQAKVWLPNNHILDTSQDMNLYFRMRFYFRNWHGMNPQEPVYRCGFP
GAETSSDRAEQGVQLLDASFEYLFEQGKHEFMNDVVSLRDLSSSEEEIHFFKNESLGMFLHLCHL
ALSRGVPLEEMAREISFKNCIPHSFRQHIRQHNVLTRRLHRVFRRFLRAFRPGHLSQQVVMVKYLA
TLERLAPRFGSERIPVCHLEVLAAQPERDPCYIQNSGQTAGDPGPELPSGPPTHEVLVTGTGGIQWHP
LQTQESERGNRGNPHGSRSGKKPKAPKAGEHLTESPQEPPTYFCDFQDISHVVLKERRVHIHLQ
DNKCLLLCLCSQAEALSFVALVDGYFRLTADSSHYLCHEVAPPRLVTSIQNGIHGPLMDPFVQAKLW
PEDGLYLIQWSTSHLHRLITVAHRNPAFSNGPRGLRLRKFPITQQPGAFVLDGWGRSFASLGDRL
ALQGC SLRAGDDCFPLHHCCLP RP REISNLVIMRGSRAHTRPLNLSQLSFHRVHQDEITQLSHLGQG
TRTNVYEGLLRVGGPDEGKVDNGCPPEPGGTSGQQLRVVLKVLDPSHHDIALAFYETASLMSQVSH
MHLAFLHGVCVRGSENIIVTEFVEHGPLDVWLRQRGQVPMTWKMVVAQQLASALSYLEDKNLVH
GNVCGRNILLARLGLLEGTNPFIKLSDPGVGQGALSREERVERIPWTAPECLSGGTSSLGTATDMW
GFGATLLEICFDGEAPLQGRGPSEKERFYTKKHQLPEPSSPELATLTRQCLTYEPAQRPSFRTILRDL
TRLQPQNLVGTSAVNSDSPASDPTVFHKRYLKKIRDLGEGHFGKVS LYCYDPTNDGTGEMVAVKAL
KEGCGPQLRSGWQREIEILRTLYHEHIVKYKGCCEDQGEKSVQLVMEYVPLGSLRDYLP RHCVGLA
QLLLFAQQICEGMAYLHAQHYIHRDLAARNVLLDNDRLVKIGDFGLAKAVPEGHEYYRVREDGDSVP
FWYAPECLKECKFYASDVWSFGVTLYELLTYCDSNQSPHMKFTELIGHTQQGQMTVLRLTELLERG
ERLPRPDRCPCEIYHLMKNCWETEASFRPTFQNLVPILQTAQEKYQGQVPSVFSVC

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 Non-receptor tyrosine-protein kinase TYK2 (EC 2.7.10.2) 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: Non-membrane spanning protein tyrosine kinase involved in numerous cytokines and interferons signaling, which regulates cell growth, development, cell migration, innate and adaptive immunity (PubMed:11070174). Plays both structural and catalytic roles in numerous interleukins and interferons (IFN-alpha/beta) signaling (By similarity). Associates with heterodimeric cytokine receptor complexes and activates STAT family members including STAT1, STAT3, STAT4 or STAT6 (PubMed:22859374). The heterodimeric cytokine receptor complexes are composed of (1) a TYK2-associated receptor chain (IFNAR1, IL12RB1, IL10RB or IL13RA1), and (2) a second receptor chain associated either with JAK1 or JAK2 (By similarity). In response to cytokine-binding to receptors, phosphorylates and activates receptors (IFNAR1, IL12RB1, IL10RB or IL13RA1), creating docking sites for STAT members (By similarity). In turn, recruited STATs are phosphorylated by TYK2 (or JAK1/JAK2 on the second receptor chain), form homo- and heterodimers, translocate to the nucleus, and regulate cytokine/growth factor responsive genes (By similarity). Negatively regulates STAT3 activity by promoting phosphorylation at a specific tyrosine that differs from the site used for signaling (By similarity). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (By similarity).; Tyrosine kinase of the non-receptor type involved in numerous cytokines and interferons signaling, which regulates cell growth, development, cell migration, innate and adaptive immunity. Plays both structural and catalytic roles in numerous interleukins and interferons (IFN-alpha/beta) signaling. Associates with heterodimeric cytokine receptor complexes and activates STAT family members including STAT1, STAT3, STAT4 or STAT6. The heterodimeric cytokine receptor complexes are composed of (1) a TYK2-associated receptor chain (IFNAR1, IL12RB1, IL10RB or IL13RA1), and (2) a second receptor chain associated either with JAK1 or JAK2. In response to cytokine-binding to receptors, phosphorylates and activates receptors (IFNAR1, IL12RB1, IL10RB or IL13RA1), creating docking sites for STAT members. In turn, recruited STATs are phosphorylated by TYK2 (or JAK1/JAK2 on the second receptor chain), form homo- and heterodimers, translocate to the nucleus, and regulate cytokine/growth factor responsive genes. Negatively regulates STAT3 activity by promoting phosphorylation at a specific tyrosine that differs from the site used for signaling. Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST).

Subcellular Localization: N/A

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.