

Recombinant Human STAT4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50934

Size: 10ug, 100ug

Protein Name: Signal transducer and activator of transcription 4

Synonym: STAT4

UniProt ID: Q14765

UniProt Link: www.uniprot.org/uniprotkb/Q14765/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 748 AA

Molecular Weight: 86 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSQWNQVQQLEIKFLEQVDQFYDDNFPMEIRHLLAQWIENQDWEAASNNETMATILLQNLLIQLDEQ
LGRVSKEKNLLLIHNLKRIRKVLQGKFHGNPMHVAVVISNCLREERRILAAANMPVQGPLEKSLQSSS
VSERQRNVEHKVAAIKNSVQMTEQDTKYLEDLQDEFDYRYKTIQTMDQSDKNSAMVQNQEVLTQEM
LNSLDFKRKEALSKMTQIIHETDLLMNTMLIEELQDWKRRQQIACIGGPLHNGLDQLQNCFTLLAESL
FQLRRQLEKLEEQSTKMTYEGDPIPMQRTHMLERVTFLLIYNLFKNSFVVERQPCMPHPQRPLVLKT
LIQFTVKLRLLIKLPELNYQVKVKASIDKNVSTLSNRRFVLCGTNVKAMSIEESSNGSLSVFRHLQPK
EMKSSAGGKGNEGCHMVTEELHSITFETQICLYGLTIDLETSSLPVVMISNVSQLPNAWASIIWYNVS
TNSQNLVFFNNPPPATLSQLLEVMSWQFSSYVGRGLNSDQLHMLAEKLTQSSYSDGHLTWAKF
CKEHLPGKSFTFTWLEAILDLIKKHILPLWIDGYVMGFVSKEKERLLKDKMPGTFLRLFSESHLGGI
TFTWVDHSESGEVRFHSEVPYNKGRLSALPFADILRDYKVIMAENIPENPLKYLYPDIPKDKAFGKHY
SSQPCEVSRPTERGDKGYVPSVFIPISTIRSDSTEPHSPDLLPMSPSVYAVLRENLSPTTIETAMKS
PYSAE

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 Signal transducer and activator of transcription 4 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: Transcriptional regulator mainly expressed in hematopoietic cells that plays a critical role in cellular growth, differentiation and immune response (PubMed:10961885, PubMed:37256972, PubMed:8943379). Plays a key role in the differentiation of T-helper 1 cells and the production of interferon-gamma (PubMed:12213961, PubMed:35614130). Also participates in multiple neutrophil functions including chemotaxis and production of the neutrophil extracellular traps (By similarity). After IL12 binding to its receptor IL12RB2, STAT4 interacts with the intracellular domain of IL12RB2 and becomes tyrosine phosphorylated (PubMed:10415122, PubMed:7638186). Phosphorylated STAT4 then homodimerizes and migrates to the nucleus where it can recognize STAT target sequences present in IL12 responsive genes. Although IL12 appears to be the predominant activating signal, STAT4 can also be phosphorylated and activated in response to IFN-gamma stimulation via JAK1 and TYK2 and in response to different interleukins including IL23, IL2 and IL35 (PubMed:11114383, PubMed:34508746). Transcription activation of IFN-gamma gene is mediated by interaction with JUN that forms a complex that efficiently interacts with the AP-1-related sequence of the IFN-gamma promoter (By similarity). In response to IFN-alpha/beta signaling, acts as a transcriptional repressor and suppresses IL5 and IL13 mRNA expression during response to T-cell receptor (TCR) activation (PubMed:26990433).

Subcellular Localization: Cytoplasm. Nucleus . Note=Translocated into the nucleus in response to phosphorylation.

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.