

Recombinant Human TEC Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50951

Size: 10ug, 100ug

Protein Name: Tyrosine-protein kinase Tec (EC 2.7.10.2)

Synonym: TEC, PSCTK4

UniProt ID: P42680

UniProt Link: www.uniprot.org/uniprotkb/P42680/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 631 AA

Molecular Weight: 74 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNFNTILEEILIKRSQQKKKTSP LNYKERLFVLTKSMLTYEYEGRAEKKYRKGFIDVSKIKCVEIVKND
GVIPCQNKYPFQVVHDANTLYIFAPSPQSRDLWVKKLKEEIKNNNNIMIKYHPKFWTDGSYQCCRQT
EKLAPGCEKYNLFESSIRKALPPAPETKKRRPPPIPLEEEDNSEEIVVAMYDFQAAEGHDLRLERGQ
EYLILEKNDVHWWRRARDKYGNEGYIPSNYVTGKKSNLDQYEWYCRNMNRSKAEQLLRSEDKEGG
FMVRDSSQPGLYTVSLYTKFGGEGSSGFRHYHIKETTTSPPKKYYLAEKHAFGSIP EII EYHKHNAAGL
VTRLRYPVSVKGKNAPTTAGFSYEKWEINPSELTFMRELGSGLFGVVRLGKWRAQYKVAIKAIREGA
MCEEDFIEEAKVMMKLTHPKLVQLYGVCTQQKPIYIVTEFMERGCLLNFLRQRQGHFSRDVLLSMCQ
DVCEGMEYLERNFSFIHRDLAARNCLVSEAGVVKVSDFGMARYVLDDQYTSSSGAKFPVKWCPPEV
FNYSRFSSKSDVWSFGVLMWEVFTEGRMPFEKYTNYEYVVTMVTRGHRLYQPKLASNYVVEVMLRC
WQEKPEGRPSFEDLLRTIDELVECEETFGR

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 Tyrosine-protein kinase Tec (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-receptor tyrosine kinase that contributes to signaling from many receptors and participates as a signal transducer in multiple downstream pathways, including regulation of the actin cytoskeleton. Plays a redundant role to ITK in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. Required for TCR-dependent IL2 gene induction. Phosphorylates DOK1, one CD28-specific substrate, and contributes to CD28-signaling. Mediates signals that negatively regulate IL2RA expression induced by TCR cross-linking. Plays a redundant role to BTK in BCR-signaling for B-cell development and activation, especially by phosphorylating STAP1, a BCR-signaling protein. Required in mast cells for efficient cytokine production. Involved in both growth and differentiation mechanisms of myeloid cells through activation by the granulocyte colony-stimulating factor CSF3, a critical cytokine to promoting the growth, differentiation, and functional activation of myeloid cells. Participates in platelet signaling downstream of integrin activation. Cooperates with JAK2 through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. GRB10, a negative modifier of the FOS activation pathway, is another substrate of TEC. TEC is involved in G protein-coupled receptor- and integrin-mediated signalings in blood platelets. Plays a role in hepatocyte proliferation and liver regeneration and is involved in HGF-induced ERK signaling pathway. TEC also regulates FGF2 unconventional secretion (endoplasmic reticulum (ER)/Golgi-independent mechanism) under various physiological conditions through phosphorylation of FGF2 'Tyr-215'. May also be involved in the regulation of osteoclast differentiation.

Subcellular Localization: Cytoplasm. Cell membrane; Peripheral membrane protein. Cytoplasm, cytoskeleton. Note=Following B-cell or T-cell receptors activation by antigen, translocates to the plasma membrane through its PH domain. Thrombin and integrin engagement induces translocation of TEC to the cytoskeleton during platelet activation. In cardiac myocytes, assumes a diffuse intracellular localization under basal conditions but is recruited to striated structures upon various stimuli, including ATP (By similarity).

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.