Recombinant TXK protein (His tag)

Catalog Number	542320
Synonyms	Protein-tyrosine kinase 4; Resting lymphocyte kinase
Species	Human
Expression System	E. coli
Accession	P42681
Molecular Weight	Predictes a molecular mass of 53.36 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 54 kDa band.

Product Information

Sequence Region	84-527
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 84-527 aa (P42681) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human TXK Protein Fragment (residues 84-527) is a high-purity, functional fragment of Tyrosine-protein kinase TXK, encompassing the complete SH2 and Protein kinase domains. This product is an essential tool for studying T-cell signaling, immune regulation, and kinase activity in adaptive immunity research. Tyrosine-protein kinase TXK (encoded by the TXK gene) is a non-receptor tyrosine kinase that plays a critical role in adaptive immune response regulation, functioning redundantly with ITK. It regulates the development, function, and differentiation of conventional T-cells and NKT-cells. Upon T-cell receptor activation, TXK is recruited to the cell membrane where it becomes phosphorylated and activated, contributing to multiple signaling pathways including actin cytoskeleton regulation and PLCG1 phosphorylation. This leads to calcium release and NFAT translocation for transcriptional activation. TXK also forms a complex with PARP1 and EEF1A1 to positively regulate IFNG transcription in T-helper 1 cells and phosphorylates key sites in LCP2 to upregulate IL-2 production. The protein localizes to the cytoplasm, nucleus, and cell membrane as a peripheral membrane protein, translocating to the plasma membrane after receptor stimulation and into the nucleus to enhance IFN-gamma gene transcription in T-cells.