TXK Protein, Human (Sf9, GST)

Cat. No.:	HY-P701655
Synonyms:	TXK; Tyrosine-protein kinase TXK; Protein-tyrosine kinase 4; Resting lymphocyte kinase
Species:	Human
Source:	Sf9 insect cells
Accession:	P42681 (I2-W527)
Gene ID:	7294
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	TXK Protein, a non-receptor tyrosine kinase, plays a redundant role with ITK in regulating the adaptive immune response, exerting influence over the development, function, and differentiation of both conventional T-cells and nonconventional NKT-cells. Upon activation of the T-cell receptor (TCR) by antigen-presenting cells (APC), a phosphorylation cascade ensues, culminating in the recruitment of TXK to the cell membrane and subsequent phosphorylation at Tyr-420, leading to its full activation. Beyond its pivotal role in TCR signaling, TXK contributes to diverse downstream pathways, including the regulation of the actin cytoskeleton. Analogous to ITK, TXK phosphorylates PLCG1, facilitating its localization in lipid rafts and activation, ultimately triggering the release of calcium from the endoplasmic reticulum into the cytoplasm. This cascade activates the nuclear factor of activated T-cells (NFAT), which translocates into the nucleus to execute its transcriptional functions. TXK also plays a crucial role in the positive regulation of IFNG transcription in T-helper 1 cells, forming an IFNG promoter-binding complex with PARP1 and EEF1A1, where it phosphorylates both PARP1 and EEF1A1. Additionally, TXK phosphorylates key sites in LCP2, leading to the up-regulation of the Th1-preferred cytokine IL-2. Furthermore, TXK phosphorylates 'Tyr-201' of CTLA4, facilitating the association of PI-3 kinase with the CTLA4 receptor.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA