

Recombinant Mouse Itk Protein, Myc/DDK-tagged

Cat. No. Itk-3615M Lot. No. (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length IL2 inducible T cell kinase (Itk), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead to the recruitment of ITK to the cell membrane, in the vicinity of the stimulated TCR receptor, where it is phosphorylated by LCK. Phosphorylation leads to ITK autophosphorylation and full activation. Once activated, phosphorylates PLCG1, leading to the activation of this lipase and subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates into the nucleus to perform its transcriptional duty. Phosphorylates 2 essential adapter proteins: the linker for activation of T-cells/LAT protein and LCP2. Then, a large number of signaling molecules such as VAV1 are recruited and ultimately lead to lymphokine production, T-cell proliferation and differentiation. Required for TCR-mediated calcium response in gamma-delta T-cells, may also be involved in the modulation of the transcriptomic signature in the Vgamma2-positive subset of immature gamma-delta T-cells. Phosphorylates TBX21 at 'Tyr-525' and mediates its interaction with GATA3.

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Molecular Mass	72 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Itk IL2 inducible T cell kinase [Mus musculus (house mouse)]
Official Symbol	Itk
Synonyms	ITK; IL2 inducible T cell kinase; tyrosine-protein kinase ITK/TSK; kinase EMT; kinase TLK; T-cell-specific kinase; IL2-inducible T-cell kinase; IL-2-inducible T-cell kinase; interleukin-2-inducible T cell kinase; Emt; Tsk; Tcsk
Gene ID	16428
mRNA Refseq	NM_010583
Protein Refseq	NP_034713
UniProt ID	Q03526

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