10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ITK Antibody

Rabbit mAb
Catalog # AP91363

Product Information

Application	WB, IHC, FC
Primary Accession	Q08881
Reactivity	Human
Clonality	Monoclonal
Other Names	EMT; Homolog of mouse T cell itk/tsk; IL 2 inducible T cell kinase; Itk; Kinase EMT; LPFS1; LYK; PSCTK2; T cell specific kinase; TSK; Tyrosine protein kinase ITK/TSK;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	71831

Additional Information

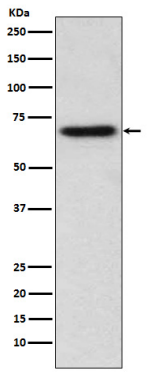
Dilution	WB 1:500~1:2000 IHC 1:50~1:200 FC 1:60
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ITK
Description	Interleukin-2 inducible T-cell kinase (Itk, Emt or Tsk) is a member of the non-receptor protein tyrosine kinases. Family members of Itk include Tec, Btk, Rlk and Bmx and are all defined by a common structure: an amino-terminal PH domain, a Tec-homology domain and a SH3 and SH2 domain followed by a carboxy-terminal kinase domain. Tec, Rlk and Itk are expressed in T cells and activated in response to T cell receptor (TCR) engagement.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	ITK
Synonyms	EMT, LYK
Function	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 (PubMed:12186560, PubMed:12682224, PubMed:21725281). 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 (By similarity). Phosphorylates TBX21 at 'Tyr-530' and mediates its interaction with GATA3 (By similarity).
Cellular Location	Cytoplasm. Nucleus {ECO:0000250|UniProtKB:Q03526}. Note=Localizes in the vicinity of cell surface receptors in the plasma membrane after receptor stimulation
Tissue Location	T-cell lines and natural killer cell lines.

Images



Western blot analysis of ITK expression in Jurkat cell lysate.