Product Name: ITK (14Z13) Rabbit Monoclonal Antibody
Catalog #: AMRe12792

Summary

Production Name	ITK (14Z13) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB,ELISA
Reactivity	Human

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
Purification	Affinity purification

Immunogen

Gene Name	ITK
Alternative 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;
Gene ID	3702.0
SwissProt ID	Q08881.

Application

Dilution Ratio	WB 1:500-1:2000
Molecular Weight	72kDa

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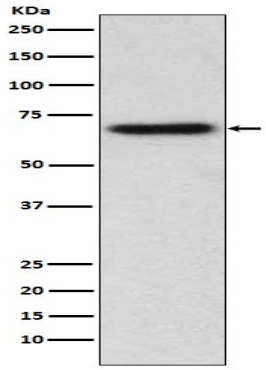
Background

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. 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).

Research Area

Image Data



Western blot analysis of ITK expression in Jurkat cell lysate.

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Note

For research use only.