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

Mouse Itk Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20745a

Product Information

Application	WB, E
Primary Accession	Q03526
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB50676
Calculated MW	72292

Additional Information

Gene ID	16428
Other Names	Tyrosine-protein kinase ITK/TSK, IL-2-inducible T-cell kinase, Kinase EMT, Kinase TLK, T-cell-specific kinase, Itk, Emt, Tlk, Tsk
Target/Specificity	This Mouse Itk antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 156-190 amino acids from the N-terminal region of human Mouse Itk.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Itk Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Itk
Synonyms	Emt, Tlk, Tsk
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. 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 (PubMed:23562159). Phosphorylates TBX21 at 'Tyr-525' and mediates its interaction with GATA3 (PubMed:15662016).
Cellular Location	Cytoplasm. Nucleus. Note=Localizes in the vicinity of cell surface receptors in the plasma membrane after receptor stimulation.
Tissue Location	Is detected in the thymus, lymph node and very faintly in the spleen, but is not detected in the liver, lung, kidney, heart, brain, intestine or testis. Expressed in T-lymphocytes and mast cells. It may also be expressed in natural killer cells

Background

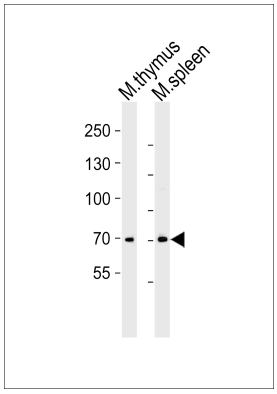
Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead 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.

References

Siliciano J.D.,et al.Proc. Natl. Acad. Sci. U.S.A. 89:11194-11198(1992).
Heyeck S.D.,et al.Proc. Natl. Acad. Sci. U.S.A. 90:669-673(1993).
Yamada N.,et al.Biochem. Biophys. Res. Commun. 192:231-240(1993).
Ogata M.,et al.Submitted (JAN-1993) to the EMBL/GenBank/DDBJ databases.
Liao X.C.,et al.Immunity 3:757-769(1995).

Images

Western blot analysis of lysates from mouse thymus and mouse spleen tissue lysate (from left to right), using Mouse Itk Antibody (N-term)(Cat. #AP20745a). AP20745a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



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