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ITK Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP17502a

Specification

ITK Antibody (N-term) Blocking Peptide - Product Information

Primary Accession O08881

ITK Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 3702

Other Names
Tyrosine-protein kinase ITK/TSK, Interleukin-2-inducible T-cell kinase, IL-2-inducible T-cell kinase, Kinase EMT, T-cell-specific kinase, Tyrosine-protein kinase Lyk, ITK, EMT, LYK

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ITK Antibody (N-term) Blocking Peptide - 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.

ITK Antibody (N-term) Blocking Peptide - Background

This gene encodes an intracellular tyrosine kinaseexpressed in T-cells. The protein contains both SH2 and SH3 domainswhich are often found in intracellular kinases. It is thought toplay a role in T-cell proliferation and differentiation. [providedby RefSeq].

ITK Antibody (N-term) Blocking Peptide - References

Grasis, J.A., et al. Mol. Cell. Biol. 30(14):3596-3609(2010)Pechloff, K., et al. J. Exp. Med. 207(5):1031-1044(2010)Qi, Q., et al. J. Biol. Chem. 284(43):29882-29892(2009)Kogina, K., et al. Mol. Cells 28(2):125-130(2009)Voss, M., et al. BMC Immunol. 10, 53 (2009) :

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.

ITK Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides