

**Mouse Itk Blocking Peptide (N-term)**

Synthetic peptide

Catalog # BP20745a

**Specification**

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**Mouse Itk Blocking Peptide (N-term) - Product Information**Primary Accession [Q03526](#)Other Accession [Q08881](#)**Mouse Itk Blocking Peptide (N-term) - 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**

The synthetic peptide sequence is selected from aa 156-170 of HUMAN Itk

**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.

**Mouse Itk Blocking Peptide (N-term) - 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:<a href="http://www.uniprot.org/citations/23562159" target="\_blank">23562159</a>). Phosphorylates TBX21 at 'Tyr-525' and mediates its interaction with GATA3 (PubMed:<a href="http://www.uniprot.org/citations/15662016" target="\_blank">15662016</a>).

#### **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

#### **Mouse Itk Blocking Peptide (N-term) - Protocols**

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

- [Blocking Peptides](#)

#### **Mouse Itk Blocking Peptide (N-term) - Images**

#### **Mouse Itk Blocking Peptide (N-term) - Background**

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#### **Mouse Itk Blocking Peptide (N-term) - 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.  
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