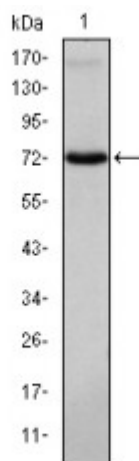


Anti-Emt antibody



Description	Mouse monoclonal to Emt.
Model	STJ98020
Host	Mouse
Reactivity	Human
Applications	ELISA, FC, IF, WB
Immunogen	Purified recombinant fragment of human Emt expressed in E. Coli.
Gene ID	3702
Gene Symbol	ITK
Dilution range	WB 1:500-1:2000IF 1:200-1:1000FC 1:200-1:400ELISA 1:10000
Specificity	Emt Monoclonal Antibody detects endogenous levels of Emt protein.
Tissue Specificity	T-cell lines and natural killer cell lines.
Purification	Affinity purification
Clone ID	5G6
Note	For Research Use Only (RUO).
Protein Name	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
Clonality	Monoclonal
Conjugation	Unconjugated

Isotype	IgG1
Formulation	Ascitic fluid containing 0.03% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6171OMIM:186973
Alternative 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
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.
Sequence and Domain Family	The N-terminal PH domain allows ITK to be recruited to the plasma membrane by an activated PI3 kinase. This domain contains also a proline-rich region (PRR). The adjoining domain is a SH3 domain, which binds to PRR (from itself or from other proteins). Next, a SH2 domain is required for binding tyrosine-phosphorylated substrates. In the C-terminal region, the kinase domain is required for tyrosine phosphorylation.
Cellular Localization	Cytoplasm. Localizes in the vicinity of cell surface receptors in the plasma membrane after receptor stimulation.
Post-translational Modifications	Phosphorylated at Tyr-512 in the activation loop of the kinase domain by LCK. Subsequent autophosphorylation at Tyr-180 leads to the kinase activation. The autophosphorylated Tyr-180 lies within the substrate binding sequence of the SH3 domain. Ubiquitinated.