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

ITK Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1594a

Product Information

Application	WB, FC, ICC, E
Primary Accession	Q08881
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5G6
Isotype	IgG1
Calculated MW	71831
Description	This gene encodes an intracellular tyrosine kinase expressed in T-cells. The protein contains both SH2 and SH3 domains which are often found in intracellular kinases. It is thought to play a role in T-cell proliferation and differentiation.
Immunogen	Purified recombinant fragment of human ITK expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	3702
Other Names	Tyrosine-protein kinase ITK/TSK, 2.7.10.2, 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
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ITK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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. 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.

References

1. J Clin Invest. 2009 May;119(5):1350-8. 2. Mol Cells. 2009 Aug 31;28(2):125-30.

Images

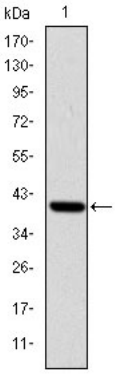


Figure 1: Western blot analysis using ITK mAb against human ITK (AA: 2-120) recombinant protein. (Expected MW is 39.7 kDa)

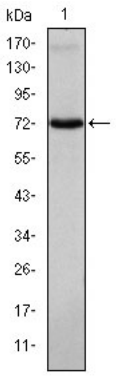


Figure 2: Western blot analysis using ITK mouse mAb against Jurkat cell lysate.

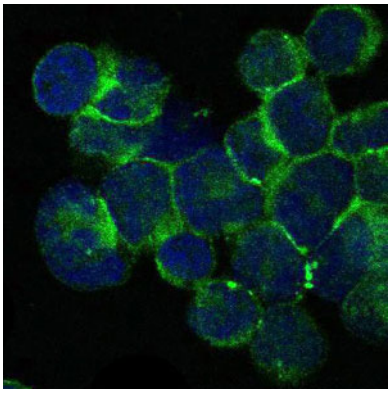


Figure 3: Immunofluorescence analysis of Jurkat cells using ITK mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

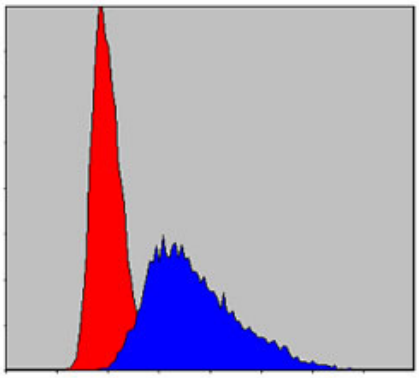


Figure 4: Flow cytometric analysis of Jurkat cells using ITK mouse mAb (blue) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.