

Mouse ITK Kinase Protein (aa 351-619, His & GST Tag)

Catalog Number: 50361-M20B



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Biological Solution Specialist

General Information

Gene Name Synonym:

EMT; LPFS1; LYK; PSCTK2; Emt; Tcsk; Tsk

Protein Construction:

A DNA sequence encoding the mouse ITK / EMT (Q03526) protein kinase domain (Arg 351-Leu 619) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Mouse

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

No Kinase Activity

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The secreted recombinant mouse ITK /GST chimera consists of 506 amino acids and has a calculated molecular mass of 58.4 kDa. The recombinant protein migrates as an approximately 58 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 7.5, 10% gly, 0.5mM GSH

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

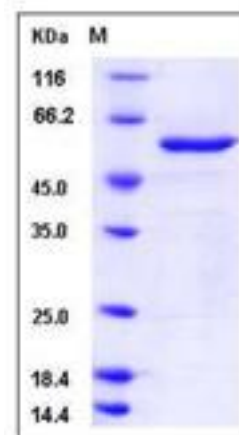
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

IL-2-inducible T cell kinase is a member of the protein kinase superfamily, Tyr protein kinase family and TEC subfamily. It contains 1 Btk-type zinc finger, 1 PH domain, 1 protein kinase domain, 1 SH2 domain and 1 SH3 domain. As an intracellular kinase which expressed in T-cells, IL-2-inducible T cell kinase 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. It regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. IL-2-inducible T cell kinase also plays an essential role in regulation of the adaptive immune response. Defects in IL-2-inducible T cell kinase are the cause of lymphoproliferative syndrome EBV-associated autosomal type 1 (LPSA1). LPSA1 is a rare immunodeficiency characterized by extreme susceptibility to infection with Epstein-Barr virus (EBV). Inadequate immune response to EBV can have a fatal outcome. Clinical features include splenomegaly, lymphadenopathy, anemia, thrombocytopenia, pancytopenia, recurrent infections. There is an increased risk for lymphoma.

References

1. Lee SH, *et al.* (2011) The association of a single-nucleotide polymorphism of the IL-2 inducible T-cell Kinase gene with asthma. *Ann Hum Genet.* 75(3):359-69.
2. Yao HL, *et al.* (2010) Effect of Itk down regulation on cytokines production in Jurkat cell. *Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi.* 24(5):358-61.
3. Pechloff K, *et al.* (2010) The fusion kinase ITK-SYK mimics a T cell receptor signal and drives oncogenesis in conditional mouse models of peripheral T cell lymphoma. *J Exp Med.* 207(5):1031-44.

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