

#2380 Store at -20C

Itk (2F12) Mouse mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	72	Mouse IgG1	#Q08881	3702

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Itk (2F12) Mouse mAb detects endogenous levels of total Itk protein.

Species predicted to react based on 100% sequence homology:

Mouse, Rat, Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with an amino-terminal peptide of Itk.

Background

Interleukin-2 inducible T cell kinase (Itk, Emt, or Tsk) is a member of the non-receptor protein tyrosine kinases. Family members of Itk include Tec, Btk, Rlk, and Bmx and are all defined by a common structure: an amino-terminal PH domain, a Tec-homology domain, and an SH3 and SH2 domain followed by a carboxy-terminal kinase domain (1). Tec, Rlk, and Itk are expressed in T cells and activated in response to T cell receptor (TCR) engagement. Data demonstrate that Itk functions in signal transduction downstream of TCR and activates PLCgamma1 and Erk. Lck directly activates Itk through phosphorylation in the conserved activation loop at Tyr511, and furthermore, Itk is autophosphorylated in the SH3 domain at Tyr180. Itk-Y180F is still capable of phosphorylating PLCgamma1 in contrast to Itk-Y511F, which has lost that function (2-3). Itk -/- mice show reduced lung inflammation, eosinophil infiltration, and mucous production in response to allergic asthma induction. Thus, Itk could become a desirable target for anti-asthmatic treatments (4).

Background References

- Schwartzberg, P.L. and Finkelstein, L.D. (2005) *Nat Rev Immunol.* 5, 284-95.
- Heyeck, S. D. et al. (1997) *J Biol Chem.* 272, 25401-8.
- Wilcox, H.M. and Berg, L.J. (2003) *J Biol Chem.* 278, 37112-21.
- Mueller, C. and August, A. (2003) *J Immunol.* 170, 5056-63.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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