

Store at
-20C
#84398**Itk (2F12) Mouse mAb (Biotinylated)**

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For Research Use Only. Not for Use in Diagnostic Procedures.

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

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 140 mM NaCl, 3 mM KCl, 10 mM sodium phosphate (pH 7.4) dibasic, 2 mM potassium phosphate monobasic, 2 mg/mL BSA, and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

Itk (2F12) Mouse mAb (Biotinylated) 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 a synthetic peptide corresponding to residues near the amino terminus of human Itk protein.

Description

This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated Itk (2F12) Mouse mAb #2380.

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

1. Schwartzberg, P.L. and Finkelstein, L.D. (2005) *Nat Rev Immunol.* 5, 284-95.
2. Heyeck, S. D. et al. (1997) *J Biol Chem.* 272, 25401-8.
3. Wilcox, H.M. and Berg, L.J. (2003) *J Biol Chem.* 278, 37112-21.
4. 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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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