Revision 1

Store at -20C

#8827

Jak3 (D1H3) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	115	Rabbit IgG	#P52333	3718

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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

Jak3 (D1H3) Rabbit mAb recognizes endogenous levels of total Jak3 protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Jak3 protein.

Background

Members of the Janus family of tyrosine kinases (Jak1, Jak2, Jak3, and Tyk2) are activated by ligands binding to a number of associated cytokine receptors (1). Upon cytokine receptor activation, Jak proteins become autophosphorylated and phosphorylate their associated receptors to provide multiple binding sites for signaling proteins. These associated signaling proteins, such as Stats (2), Shc (3), insulin receptor substrates (4), and focal adhesion kinase (FAK) (5), typically contain SH2 or other phospho-tyrosine-binding domains.
Jak3 is primarily expressed in hematopoietic cells and is required for immune cell function and development (6-8). It binds to the common γ subunit (γc), a shared receptor subunit also used by several cytokines including IL-2, IL-4, IL-7, IL-9, and IL-15 (9). IL-2 signaling and Stat5 activation are highly impaired by the loss of Jak3 (10,11). Jak3 is phosphorylated at multiple sites, including Tyr980 and 981 within the activation loop (12-14).

Background References

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3. VanderKuur, J. et al. (1995) *J Biol Chem* 270, 7587-93.
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6. Thomis, D.C. et al. (1995) *Science* 270, 794-7.
7. Nosaka, T. et al. (1995) *Science* 270, 800-2.
8. Park, S.Y. et al. (1995) *Immunity* 3, 771-82.
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11. Oakes, S.A. et al. (1996) *Immunity* 5, 605-15.
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13. Cheng, H. et al. (2008) *Mol Cell Biol* 28, 2271-82.
14. Rikova, K. et al. (2007) *Cell* 131, 1190-203.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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