

Jak1 (E3A6M) Rabbit mAb

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Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 130	Source/Isotype: Rabbit IgG	UniProt ID: #P23458	Entrez-Gene Id: 3716
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

Jak1 (E3A6M) Rabbit mAb recognizes endogenous levels of total Jak1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human Jak1 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 phosphotyrosine-binding domains.

Activation of Jak kinases upon cytokine receptor binding is associated with tyrosine phosphorylation within their activation loops, including Tyr1034/1035 of Jak1, Tyr1007/1008 of Jak2, Tyr980/981 of Jak3, and Tyr1054/1055 of Tyk2. Many studies have indicated that various cytokine receptors have clear preferences that utilize distinct Jak family members. Aberrant regulation of Jak signaling is associated with a number of diseases, including myeloproliferative neoplasms, leukemia, and inflammatory disease (6).

Background References

1. Leonard, W.J. and O'Shea, J.J. (1998) *Annu Rev Immunol* 16, 293-322.
2. Darnell, J.E. (1997) *Science* 277, 1630-5.
3. VanderKuur, J. et al. (1995) *J Biol Chem* 270, 7587-93.
4. Argetsinger, L.S. et al. (1995) *J Biol Chem* 270, 14685-92.
5. Zhu, T. et al. (1998) *J Biol Chem* 273, 10682-9.
6. Babon, J.J. et al. (2014) *Biochem J* 462, 1-13.

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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