

Jak3 (5H2) Mouse mAb



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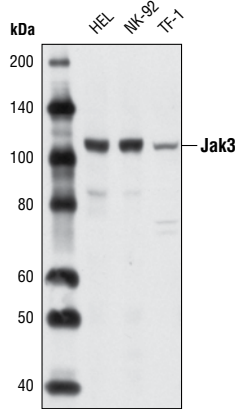
Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 115 kDa	Isotype Mouse IgG1**
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Background: Members of the Janus family of tyrosine kinases (Jak1, Jak2, Jak3 and Tyk2) are activated by ligands binding to a number of associated cytokine 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 (γ_c) and 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 is highly impaired by the loss of Jak3 (10,11). Jak3 is phosphorylated at multiple sites, including Tyr980 and 981 within its activation loop (12-14).

Specificity/Sensitivity: Jak3 (5H2) Mouse mAb detects endogenous levels of human Jak3 protein.

Source/Purification: Monoclonal antibody was prepared from animals immunized with a purified recombinant fragment of human Jak3 expressed in *E. Coli*.



Western blot analysis of extracts from various cell lines using Jak3 (5H2) Mouse mAb.

Entrez-Gene ID #3718
Swiss-Prot Acc. #P52333

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

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

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- (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.
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- (7) Nosaka, T. et al. (1995) *Science* 270, 800-2.
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- (9) Russell, S.M. et al. (1994) *Science* 266, 1042-5.
- (10) Johnston, J.A. et al. (1994) *Nature* 370, 151-3.
- (11) Oakes, S.A. et al. (1996) *Immunity* 5, 605-15.
- (12) Zhou, Y.J. et al. (1997) *Proc Natl Acad Sci U S A* 94, 13850-5.
- (13) Cheng, H. et al. (2008) *Mol Cell Biol* 28, 2271-82.
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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.