Store at -20C
#5031

Phospho-Jak3 (Tyr980/981) (D44E3) Rabbit mAb

Cell Signaling TECHNOLOGY®

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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:
WB	H M	Endogenous	115	Rabbit IgG	#P52333	3718

Product Usage Information

Application	Dilution
Western Blotting	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

Phospho-Jak3 (Tyr980/981) (D44E3) Rabbit mAb detects endogenous levels of Jak3 when phosphorylated at Tyr980/981. Some reactivity may exist with single phosphorylation at these sites.

Species predicted to react based on 100% sequence homology:

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to a region surrounding Tyr980/981 of human and mouse 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) 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).

Background References

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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

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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Limited Uses