

JAK3 (N-15): sc-1078

BACKGROUND

JAK3 (Janus kinase 3) belongs to the family of non-receptor janus tyrosine kinases, which regulate a spectrum of cellular functions downstream of activated cytokine receptors in the lymphohematopoietic system. Immunological stimuli, such as interferons and cytokines, induce recruitment of Stat transcription factors to cytokine receptor-associated JAK3. JAK3 then phosphorylates proximal Stat factors, which subsequently dimerize, translocate to the nucleus and bind to *cis* elements upstream of target gene promoters to regulate transcription. The canonical JAK/Stat pathway is integral to maintaining a normal immune system, stimulating proliferation, differentiation, survival, and host resistance to pathogens. Altering JAK/Stat signaling to reduce cytokine induced pro-inflammatory responses represents an attractive target for anti-inflammatory therapies.

CHROMOSOMAL LOCATION

Genetic locus: JAK3 (human) mapping to 19p13.11; Jak3 (mouse) mapping to 8 B3.3.

SOURCE

JAK3 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of JAK3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

JAK3 (N-15) is recommended for detection of JAK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

JAK3 (N-15) is also recommended for detection of JAK3 in additional species, including canine and porcine.

Suitable for use as control antibody for JAK3 siRNA (h): sc-29379, JAK3 siRNA (m): sc-35721, JAK3 shRNA Plasmid (h): sc-29379-SH, JAK3 shRNA Plasmid (m): sc-35721-SH, JAK3 shRNA (h) Lentiviral Particles: sc-29379-V and JAK3 shRNA (m) Lentiviral Particles: sc-35721-V.

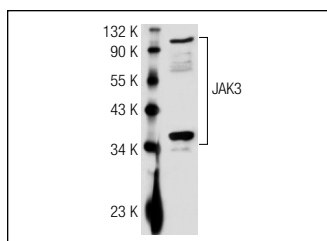
Molecular Weight of JAK3: 116 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HuT 78 whole cell lysate: sc-2208 or MOLT-4 cell lysate: sc-2233.

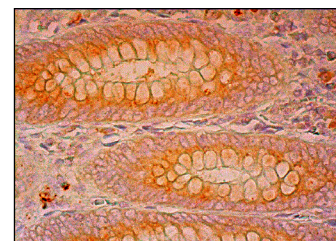
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



JAK3 (N-15): sc-1078. Western blot analysis of JAK3 expression in HuT 78 whole cell lysate.



JAK3 (N-15): sc-1078. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Endo, K., et al. 2000. STAM2, a new member of the STAM family, binding to the Janus kinases. *FEBS Lett.* 477: 55-61.
- Loeb, D.M., et al. 2002. Cyclin E is a target of WT1 transcriptional repression. *J. Biol. Chem.* 277: 19627-19632.
- Soldevila, G., et al. 2004. Impaired chemokine-induced migration during T-cell development in the absence of Jak 3. *Immunology* 112: 191-200.
- Datta, A., et al. 2006. Differential effects of immunosuppressive drugs on T-cell motility. *Am. J. Transplant.* 6: 2871-2883.
- Garcia-Zepeda, E.A., et al. 2007. Janus kinase 3-deficient T lymphocytes have an intrinsic defect in CCR7-mediated homing to peripheral lymphoid organs. *Immunology* 122: 247-260.
- Choi, Y.L., et al. 2007. Identification of a constitutively active mutant of JAK3 by retroviral expression screening. *Leuk. Res.* 31: 203-209.
- Sun, X., et al. 2010. Rectal administration of tranilast ameliorated acute colitis in mice through increased expression of heme oxygenase-1. *Pathol. Int.* 60: 93-101.



Try **JAK3 (B-12): sc-6932** or **JAK3 (A1-14-16): sc-56921**, our highly recommended monoclonal alternatives to JAK3 (N-15). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **JAK3 (B-12): sc-6932**.