

JAK3 (C-21): sc-513

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 lympho-hematopoietic 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.

SOURCE

JAK3 (C-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-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-513 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose (sc-513 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz (sc-513 X) reagent for ChIP application, 200 µg/0.1 ml.

APPLICATIONS

JAK3 (C-21) is recommended for detection of JAK3 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

JAK3 (C-21) X TransCruz antibody is recommended for ChIP assays.

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.

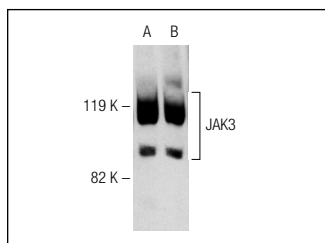
STORAGE

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

RESEARCH USE

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

DATA



JAK3 (C-21): sc-513. Western blot analysis of JAK3 expression in HuT 78 (A) and MOLT-4 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Eriksen, K.W., et al. 2009. The combination of IL-21 and IFN-α boosts STAT3 activation, cytotoxicity and experimental tumor therapy. *Mol. Immunol.* 46: 812-820.
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- Zenatti, P.P., et al. 2011. Oncogenic IL7R gain-of-function mutations in childhood T-cell acute lymphoblastic leukemia. *Nat. Genet.* 43: 932-939.
- Datta, R., et al. 2011. PARP-1 deficiency blocks IL-5 expression through calpain-dependent degradation of STAT-6 in a murine asthma model. *Allergy* 66: 853-861.
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Try **JAK3 (B-12): sc-6932** or **JAK3 (A1-14-16): sc-56921**, our highly recommended monoclonal alternatives to JAK3 (C-21). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **JAK3 (B-12): sc-6932**.