SANTA CRUZ BIOTECHNOLOGY, INC.

JAK2 (C-14): sc-34479

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

JAK2 (Janus kinase 2) belongs to the emerging 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 JAK2. JAK2 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 by 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: JAK2 (human) mapping to 9p24.1; Jak2 (mouse) mapping to 19 C1.

SOURCE

JAK2 (C-14) is available as either goat (sc-34479) or rabbit (sc-34479-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of JAK2 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-34479 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

JAK2 (C-14) is recommended for detection of JAK2 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).

JAK2 (C-14) is also recommended for detection of JAK2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for JAK2 siRNA (h): sc-39099, JAK2 siRNA (m): sc-39100, JAK2 shRNA Plasmid (h): sc-39099-SH, JAK2 shRNA Plasmid (m): sc-39100-SH, JAK2 shRNA (h) Lentiviral Particles: sc-39099-V and JAK2 shRNA (m) Lentiviral Particles: sc-39100-V.

Molecular Weight of JAK2: 128 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225 or NIH/3T3 whole cell lysate: sc-2210.

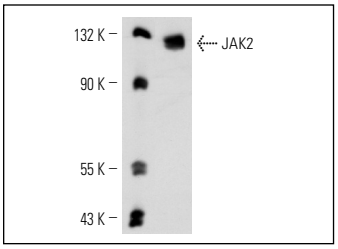
RESEARCH USE

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

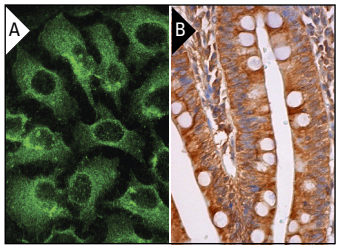
STORAGE

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

DATA



JAK2 (C-14): sc-34479. Western blot analysis of JAK2 expression in CCRF-CEM whole cell lysate.



JAK2 (C-14): sc-34479. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Samaan, A. and Mahana, W. 2007. Constitutive and induced activation of JAK/Stat pathway in leukemogenic and asymptomatic human T-cell lymphoptropic virus type 1 (HTLV-1) transformed rabbit cell lines. Immunol. Lett. 109: 113-119.
2. Oufkir, T., et al. 2010. The 5-HT 2A serotonin receptor enhances cell viability, affects cell cycle progression and activates MEK-ERK1/2 and JAK2-STAT3 signalling pathways in human choriocarcinoma cell lines. Placenta 31: 439-447.
3. Nakamura, S., et al. 2011. Down-regulation of thanatos-associated protein 11 by Bcr-Abl promotes CML cell proliferation through c-Myc expression. Int. J. Cancer 130: 1046-1059.
4. Tang, H., et al. 2011. Changes in growth hormone (GH), GH receptor, and GH signal transduction in hippocampus of congenital hypothyroid rats. J. Neurosci. Res. 89: 248-255.
5. Vuletic, S., et al. 2011. PLTP regulates STAT3 and NFκB in differentiated THP1 cells and human monocyte-derived macrophages. Biochim. Biophys. Acta 1813: 1917-1924.
6. Tang, H., et al. 2011. Changes in growth hormone (GH), GH receptor, and GH signal transduction in hippocampus of congenital hypothyroid rats. J. Neurosci. Res. 89: 248-255.
7. Gan, X.T., et al. 2015. Myocardial hypertrophic remodeling and impaired left ventricular function in mice with a cardiac-specific deletion of janus kinase 2. Am. J. Pathol. 185: 3202-3210.