

JAK2 (M-126): sc-7229

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.

REFERENCES

1. Heim, M.H. 1996. The Jak-STAT pathway: specific signal transduction from the cell membrane to the nucleus. *Eur. J. Clin. Invest.* 26: 1-12.
2. Decker, T., et al. 1997. Jaks, stats and the immune system. *Immunobiology* 198: 99-111.

CHROMOSOMAL LOCATION

Genetic locus: JAK2 (human) mapping to 9p24.1; Jak2 (mouse) mapping to 19 C1.

SOURCE

JAK2 (M-126) is a rabbit polyclonal antibody raised against amino acids 190-315 mapping at the N-terminus of JAK2 of mouse origin.

PRODUCT

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

APPLICATIONS

JAK2 (M-126) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

JAK2 (M-126) 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.

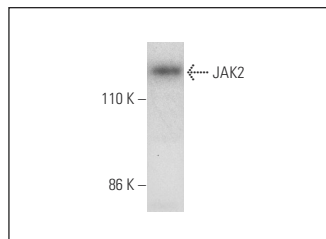
Molecular Weight of JAK2: 128 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

STORAGE

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

DATA



JAK2 (M-126): sc-7229. Western blot analysis of JAK2 expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Huang, J.S., et al. 1999. Role of the Janus kinase (JAK)/signal transducers and activators of transcription (Stat) cascade in advanced glycation end-product-induced cellular mitogenesis in NRK-49F cells. *Biochem. J.* 342: 231-238.
2. Cassinelli, G., et al. 2009. Concomitant downregulation of proliferation/survival pathways dependent on FGF-R3, JAK2 and BCMA in human multiple myeloma cells by multi-kinase targeting. *Biochem. Pharmacol.* 78: 1139-1147.
3. Ma, W., et al. 2010. JAK2 exon 14 deletion in patients with chronic myeloproliferative neoplasms. *PLoS ONE* 5: e12165.
4. Zapparoli, A., et al. 2010. Hypothalamic SOCS-3 expression and the effect of intracerebroventricular angiotensin II injection on water intake and renal sodium handling in SHR. *J. Physiol. Sci.* 60: 425-433.
5. Ju, K.D., et al. 2011. Potential role of NADPH oxidase-mediated activation of Jak2/Stat3 and mitogen-activated protein kinases and expression of TGF-β1 in the pathophysiology of acute pancreatitis. *Inflamm. Res.* 60: 791-800.
6. Chu, D., et al. 2011. Paeoniflorin attenuates schistosomiasis japonica-associated liver fibrosis through inhibiting alternative activation of macrophages. *Parasitology* 138: 1259-1271.

RESEARCH USE

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

MONOS
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Try **JAK2 (C-10): sc-390539**, our highly recommended monoclonal alternative to JAK2 (M-126). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **JAK2 (C-10): sc-390539**.