p-JAK2 (Tyr 1007/Tyr 1008): sc-21870

**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. Immuno-
logical stimuli, such as interferons and cytokines, induce recruitment of Stat transcription factors to cytokine receptor-associated JAK2. JAK2 then phosphor-
ylates proximal Stat factors, which subsequently dimerize, translocates to the nucleus and binds to cis elements upstream of target gene promoters to regulate transcription. The canonical JAK/Stat pathway is integral to maintain-
ing 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. Within the JAK2 kinase domain, there is a region that has considerable sequence homology to the regulatory region of the Insulin receptor. Among a variety of sites, Tyrosines 1007 and 1008 are sites of trans- or autophosphorylation in vivo and in vitro kinase reactions.

**CHROMOSOMAL LOCATION**

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

**SOURCE**

p-JAK2 (Tyr 1007/Tyr 1008) is available as either goat (sc-21870) or rabbit (sc-21870-R) affinity purified polyclonal antibody raised against a short amino acid sequence containing Tyr 1007 and Tyr 1008 phosphorylated 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-21870 P (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

p-JAK2 (Tyr 1007/Tyr 1008) is recommended for detection of Tyr 1007 and Tyr 1008 of dually phosphorylated 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). p-JAK2 (Tyr 1007/Tyr 1008) is also recommended for detection of correspondingly phosphorylated JAK2 in additional species, including canine, bovine and porcine.

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 p-JAK2: 128 kDa.

**DATA**

Western blot analysis of JAK2 phosphorylation in untreated (A), mouse LIF (sc-4989R) treated (B) and LIF and lambda protein phosphatase (sc-200312A) treated (C) 3T3-L1 whole cell lysates. Antibody tested: p-JAK2 (Tyr 1007/Tyr 1008)-R: sc-21870-R (A, B, C).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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