

JAK1 (B-3): sc-376996



The Power to Question

BACKGROUND

JAK1 (Janus kinase 1) 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 JAK1. JAK1 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. Upon ligand binding, JAK1 undergoes tyrosine phosphorylation and catalytic activation in an interdependent manner. Phosphorylation of tyrosine residues at position 1,022 and 1,023 is believed to function in the activation of catalytic events. 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: JAK1 (human) mapping to 1p31.3.

SOURCE

JAK1 (B-3) is a mouse monoclonal antibody raised against amino acids 270-375 mapping at the N-terminus of JAK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JAK1 (B-3) is available conjugated to agarose (sc-376996 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376996 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376996 PE), fluorescein (sc-376996 FITC), Alexa Fluor® 488 (sc-376996 AF488), Alexa Fluor® 546 (sc-376996 AF546), Alexa Fluor® 594 (sc-376996 AF594) or Alexa Fluor® 647 (sc-376996 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376996 AF680) or Alexa Fluor® 790 (sc-376996 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

JAK1 (B-3) is recommended for detection of JAK1 of human origin by Western Blotting (starting dilution 1:100, 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 JAK1 siRNA (h): sc-35719, JAK1 shRNA Plasmid (h): sc-35719-SH and JAK1 shRNA (h) Lentiviral Particles: sc-35719-V.

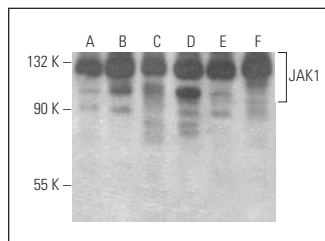
Molecular Weight of JAK1: 130 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

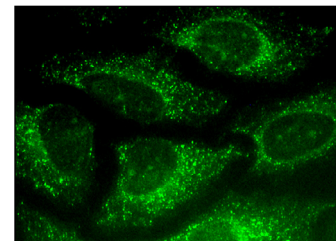
STORAGE

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

DATA



JAK1 (B-3): sc-376996. Western blot analysis of JAK1 expression in A-431 (A), MCF7 (B), HeLa (C), TF-1 (D), Ramos (E) and A549 (F) whole cell lysates.



JAK1 (B-3): sc-376996. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

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RESEARCH USE

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