

Stat4 (C-18): sc-33877

BACKGROUND

Membrane receptor signaling by various ligands, including interferons and growth hormones such as EGF, induces activation of Jak kinases which then leads to tyrosine phosphorylation of the various Stat transcription factors. Stat1 and Stat2 are induced by IFN- α and form a heterodimer which is part of the ISGF3 transcription factor complex. Although early reports indicate Stat3 activation by EGF and IL-6, it has been shown that Stat3 β appears to be activated by both while Stat3 α is activated by EGF, but not by IL-6. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Stat5 has been shown to be activated by prolactin and by IL-3. Stat6 is involved in IL-4 activated signaling pathways.

REFERENCES

- Zhong, Z., et al. 1994. Stat3: a Stat family member activated by tyrosine phosphorylation in response to epidermal growth factor and interleukin-6. *Science* 264: 95-98.
- Darnell, J.E., et al. 1994. JAK-Stat pathways and transcriptional activation in response to IFNs and other extracellular signaling proteins. *Science* 264: 1415-1421.
- Hou, J., et al. 1994. An interleukin-4-induced transcription factor: IL-4 Stat. *Science* 265: 1701-1706.
- Yamamoto, K., et al. 1994. Stat4, a novel gamma interferon activation site-binding protein expressed in early myeloid differentiation. *Mol. Cell. Biol.* 14: 4342-4349.
- Pallard, C., et al. 1995. Interleukin-3, erythropoietin, and prolactin activate a Stat5-like factor in lymphoid cells. *J. Biol. Chem.* 270: 15942-15945.
- Qureshi, S.A., et al. 1995. Tyrosine-phosphorylated Stat1 and Stat2 plus a 48-kDa protein all contact DNA in forming interferon-stimulated-gene factor 3. *Proc. Nat. Acad. Sci. USA* 92: 3829-3833.
- Schindler, C., et al. 1995. transcriptional responses to polypeptide ligands: the JAK-Stat pathway. *Annu. Rev. Biochem.* 64: 621-651.
- Schaefer, T.S., et al. 1995. Cooperative transcriptional activity of Jun and Stat3 β , a short form of Stat3. *Proc. Nat. Acad. Sci. USA* 92: 9097-9091.

CHROMOSOMAL LOCATION

Genetic locus: STAT4 (human) mapping to 2q32.2; Stat4 (mouse) mapping to 1 C1.1.

SOURCE

Stat4 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Stat4 of human origin.

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.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-33877 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-33877 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Stat4 (C-18) is recommended for detection of Stat4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Stat4 (C-18) is also recommended for detection of Stat4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Stat4 siRNA (h): sc-36568, Stat4 siRNA (m): sc-36569, Stat4 shRNA Plasmid (h): sc-36568-SH, Stat4 shRNA Plasmid (m): sc-36569-SH, Stat4 shRNA (h) Lentiviral Particles: sc-36568-V and Stat4 shRNA (m) Lentiviral Particles: sc-36569-V.

Stat4 (C-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat4: 89 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or mouse testis extract: sc-2405.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Stat4 (C-4): sc-398228** or **Stat4 (A-12): sc-365518**, our highly recommended monoclonal alternatives to Stat4 (C-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Stat4 (C-4): sc-398228**.