

Stat1 (SM2): sc-51702

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

1. 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.
2. 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.
3. Hou, J., et al. 1994. An interleukin-4-induced transcription factor: IL-4 Stat. *Science* 265: 1701-1706.
4. Yamamoto, K., et al. 1994. Stat4, a novel γ -interferon activation site-binding protein expressed in early myeloid differentiation. *Mol. Cell. Biol.* 14: 4342-4349.
5. Pallard, C., et al. 1995. Interleukin-3, erythropoietin and Prolactin activate a Stat5-like factor in lymphoid cells. *J. Biol. Chem.* 270: 15942-15945.
6. 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. Natl. Acad. Sci. USA* 92: 3829-3833.
7. Schindler, C., et al. 1995. Transcriptional responses to polypeptide ligands: the JAK-Stat pathway. *Annu. Rev. Biochem.* 64: 621-651.
8. Schaefer, T.S., et al. 1995. Cooperative transcriptional activity of Jun and Stat3b, a short form of Stat3. *Proc. Nat. Acad. Sci. USA* 92: 9097-9091.

CHROMOSOMAL LOCATION

Genetic locus: STAT1 (human) mapping to 2q32.2; Stat1 (mouse) mapping to 1 C1.1.

SOURCE

Stat1 (SM2) is a mouse monoclonal antibody raised against amino acids 8-23 of Stat1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Stat1 (SM2) is recommended for detection of Stat1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

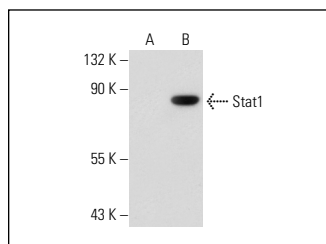
Suitable for use as control antibody for Stat1 siRNA (h): sc-44123, Stat1 siRNA (m): sc-44124, Stat1 shRNA Plasmid (h): sc-44123-SH, Stat1 shRNA Plasmid (m): sc-44124-SH, Stat1 shRNA (h) Lentiviral Particles: sc-44123-V and Stat1 shRNA (m) Lentiviral Particles: sc-44124-V.

Molecular Weight of Stat1 α : 91 kDa.

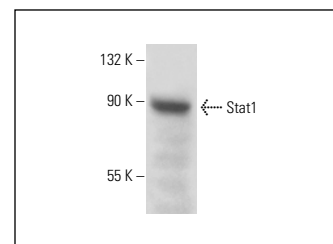
Molecular Weight of Stat1 β : 84 kDa.

Positive Controls: Stat1 (m): 293T Lysate: sc-123815, K-562 whole cell lysate: sc-2203 or SK-MEL-28 + IFN- α cell lysate: sc-2290.

DATA



Stat1 (SM2): sc-51702. Western blot analysis of Stat1 expression in non-transfected: sc-117752 (A) and mouse Stat1 transfected: sc-123815 (B) 293T whole cell lysates.



Stat1 (SM2): sc-51702. Western blot analysis of Stat1 expression in IFN γ -treated SK-MEL-28 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Shang, L., et al. 2005. The heat shock protein 90-Cdc37 chaperone complex is required for signaling by types I and II interferons. *J. Biol. Chem.* 281: 1876-1884.
2. Du, J., et al. 2024. Cirsilineol improves anesthesia/surgery-induced post-operative cognitive dysfunction through attenuating oxidative stress and modulating microglia M1/M2 polarization. *PeerJ* 12: e18507.

RESEARCH USE

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

PROTOCOLS

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



See **Stat1 (C-136): sc-464** for Stat1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.