

p-Stat1 (12C5): sc-81522

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 γ interferon activation site-binding protein expressed in early myeloid differentiation. *Mol. Cell Biol.* 14: 4342-4349.
- Schindler, C. and Darnell, J.E. 1995. transcriptional responses to polypeptide ligands: the JAK-Stat pathway. *Annu. Rev. Biochem.* 64: 621-651.
- 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.
- Schaefer, T.S., et al. 1995. Cooperative transcriptional activity of Jun and Stat3 β , a short form of Stat3. *Proc. Natl. Acad. Sci. USA* 92: 9097-9091.
- Pallard, C., et al. 1995. Interleukin-3, erythropoietin, and Prolactin activate a Stat5-like factor in lymphoid cells. *J. Biol. Chem.* 270: 15942-15945.

CHROMOSOMAL LOCATION

Genetic locus: STAT1 (human) mapping to 2q32.2.

SOURCE

p-Stat1 (12C5) is a mouse monoclonal antibody raised against a synthetic phosphopeptide corresponding to amino acids 724-730 of Stat1 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5ml PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

RESEARCH USE

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

APPLICATIONS

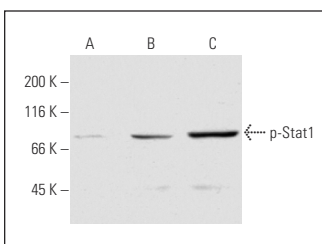
p-Stat1 (12C5) is recommended for detection of Ser 727 phosphorylated Stat1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Stat1 p84/p91 siRNA (h): sc-44123, Stat1 p84/p91 shRNA Plasmid (h): sc-44123-SH and Stat1 p84/p91 shRNA (h) Lentiviral Particles: sc-44123-V.

Molecular Weight of p-Stat1: 91 kDa.

Positive Controls: HeLa + IFN- γ cell lysate: sc-2222 or SK-MEL-28 + IFN- α cell lysate: sc-2290.

DATA



p-Stat1 (12C5): sc-81522. Western blot analysis of Stat1 phosphorylation in non-stimulated (A), EGF stimulated (B) and pervanadate treated (C) A549 whole cell lysates.

SELECT PRODUCT CITATIONS

- Chattopadhyay, S., et al. 2009. Tumor-shed PGE2 impairs IL2R γ c-signaling to inhibit CD4 T cell survival: regulation by theaflavins. *PLoS ONE* 4: e7382.
- Klamer, G., et al. 2013. GSK3 inhibition prevents lethal GVHD in mice. *Exp. Hematol.* 41: 39-55.
- Li, L., et al. 2020. Gilteritinib induces PUMA-dependent apoptotic cell death via AKT/GSK-3 β /NF κ B pathway in colorectal cancer cells. *J. Cell. Mol. Med.* 24: 2308-2318.

STORAGE

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

PROTOCOLS

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