

Stat3 (h3): 293T Lysate: sc-177985

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

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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 Stat3, a short form of Stat3. *Proc. Natl. Acad. Sci. USA* 92: 9097-9091.

CHROMOSOMAL LOCATION

Genetic locus: STAT3 (human) mapping to 17q21.2.

PRODUCT

Stat3 (h3): 293T Lysate represents a lysate of human Stat3 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Stat3 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive Stat3 antibodies. Recommended use: 10-20 μ l per lane.

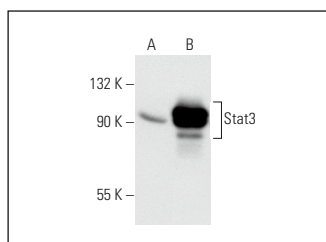
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Stat3 (F-2): sc-8019 is recommended as a positive control antibody for Western Blot analysis of enhanced human Stat3 expression in Stat3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Stat3 (F-2): sc-8019. Western blot analysis of Stat3 expression in non-transfected: sc-117752 (A), and human Stat3 transfected: sc-177985 (B) 293T whole cell lysates.

RESEARCH USE

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