

Stat6 (AS6-45.13.9): sc-53611

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 proteins that have been designated Stats (signal transducers and activators of transcription). The first members of this family to be described include Stat1 α p91, Stat1 β p84 (a form of p91 that lacks 38 COOH-terminal amino acids) and Stat2 p113. Stat1 and Stat2 are induced by IFN- α and form a heterodimer which is part of the ISGF3 transcription factor complex. Stat3, which becomes activated in response to epidermal growth factor (EGF) and interleukin-6 (IL-6), but not interferon- γ (IFN- γ) or Stat4, is an additional member of this family. It has been suggested that the phosphorylated forms of both Stat3 and Stat4 form homodimers as well as heterodimers with the other members of the Stat family, and that differential activation of different Stat proteins in response to different ligands should help to explain specificity in nuclear signaling from the cell surface. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Other members of the Stat family include Stat5, which has been shown to be activated by Prolactin and by IL-3, and Stat6 (also designated IL-4 Stat), which is involved in IL-4-activated signaling pathways.

REFERENCES

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- 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.
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- 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. Nat. Acad. Sci. USA* 92: 9097-9091.
- Schindler, C., et al. 1995. transcriptional responses to polypeptide ligands: the JAK/Stat pathway. *Annu. Rev. Biochem.* 64: 621-651.
- Yabiku, K., et al. 2007. Polymorphisms of interleukin (IL)-4 receptor α and signal transducer and activator of transcription-6 (Stat6) are associated with increased IL-4R α -Stat6 signalling in lymphocytes and elevated serum IgE in patients with Graves' disease. *Clin. Exp. Immunol.* 148: 425-431.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: STAT6 (human) mapping to 12q13.3.

SOURCE

Stat6 (AS6-45.13.9) is a Armenian hamster monoclonal antibody raised against Stat6 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

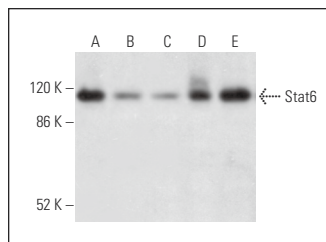
Stat6 (AS6-45.13.9) is recommended for detection of Stat6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; may cross-react with Stat1, Stat3, or Stat4.

Suitable for use as control antibody for Stat6 siRNA (h): sc-29497, Stat6 shRNA Plasmid (h): sc-29497-SH and Stat6 shRNA (h) Lentiviral Particles: sc-29497-V.

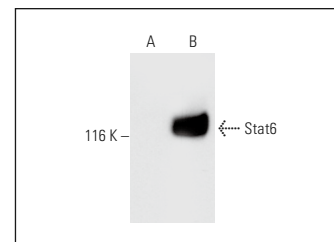
Molecular Weight of Stat6: 119 kDa.

Positive Controls: Stat6 (h): 293T Lysate: sc-117401, BJAB whole cell lysate: sc-2207 or HeLa whole cell lysate: sc-2200.

DATA



Stat6 (AS6-45.13.9): sc-53611. Western blot analysis of Stat6 expression in HeLa (A), K-562 (B), Jurkat (C), BJAB (D) and A-431 (E) whole cell lysates.



Stat6 (AS6-45.13.9): sc-53611. Western blot analysis of Stat6 expression in non-transfected: sc-117752 (A) and human Stat6 transfected: sc-117401 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- MacKinnon, A.C., et al. 2008. Regulation of alternative macrophage activation by galectin-3. *J. Immunol.* 180: 2650-2658.

RESEARCH USE

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

CONJUGATES

See **Stat6 (D-1): sc-374021** for Stat6 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.