

# p-Stat6 (177C322): sc-52944

## BACKGROUND

Membrane receptor signaling by various ligands, including interferons and growth hormones like EGF, induces activation of JAK kinases, which then leads to tyrosine phosphorylation of the various Stat transcription factors. Activated Stat proteins form dimers, translocate to the nucleus, bind to specific response elements in promoters of target genes, and transcriptionally activate these genes. Stimulation of susceptible cells by interleukin-4 (IL-4) leads to activation of Stat6 through the phosphorylation of tyrosine and serine residues. IL-4 activation of Stat6 also leads to dimerization, which directs Stat6 to the nucleus and renders it a sequence-specific transcription factor. Stat6 is also tyrosine-phosphorylated in response to IL-15 and is involved in IL-4 activated signaling pathways. The activation of Stat6 by JAK family protein tyrosine kinases is essential for the full response of cells to IL-4.

## REFERENCES

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2. Hou, J., et al. 1994. An interleukin-4-induced transcription factor: IL-4 Stat. *Science* 265: 1701-1706.
3. Schindler, C., et al. 1995. Transcriptional responses to polypeptide ligands: the JAK/Stat pathway. *Annu. Rev. Biochem.* 64: 621-651.
4. Moriggl, R., et al. 1998. Activation of Stat6 is not dependent on phosphotyrosine-mediated docking to the interleukin-4 receptor and can be blocked by dominant-negative mutants of both receptor subunits. *Eur. J. Biochem.* 251: 25-35.
5. Kamogawa, Y., et al. 1998. A conditionally active form of Stat6 can mimic certain effects of IL-4. *J. Immunol.* 161: 1074-1077.
6. Heim, M.H. 1999. The JAK/Stat pathway: cytokine signalling from the receptor to the nucleus. *J. Recept. Signal Transduct. Res.* 19: 75-120.
7. Pesu, M., et al. 2000. Interleukin-4-induced transcriptional activation by Stat6 involves multiple serine/threonine kinase pathways and serine phosphorylation of Stat6. *Blood* 95: 494-502.
8. Masuda, A., et al. 2000. Interleukin-15 induces rapid tyrosine-phosphorylation of Stat6 and the expression of interleukin-4 in mouse mast cells. *J. Biol. Chem.* 275: 29331-29337.

## CHROMOSOMAL LOCATION

Genetic locus: STAT6 (human) mapping to 12q13; Stat6 (mouse) mapping to 10 D3.

## SOURCE

p-Stat6 (177C322) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 631-645 of Stat6 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.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 500 µl PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-Stat6 (177C322) is recommended for detection of Tyr 641 phosphorylated Stat6 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Stat6 siRNA (h): sc-29497, Stat6 siRNA (m): sc-36570, Stat6 shRNA Plasmid (h): sc-29497-SH, Stat6 shRNA Plasmid (m): sc-36570-SH, Stat6 shRNA (h) Lentiviral Particles: sc-29497-V and Stat6 shRNA (m) Lentiviral Particles: sc-36570-V.

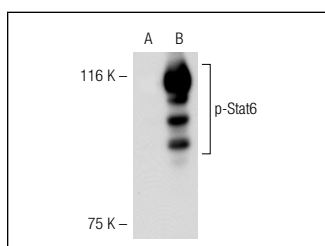
Molecular Weight of p-Stat6: 105 kDa.

Positive Controls: Stat6 (h): 293T Lysate: sc-117401 or IL-4 treated HeLa whole cell lysate.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



p-Stat6 (177C322): sc-52944. Western blot analysis of Stat6 phosphorylation in non-transfected: sc-117752 (A) and human Stat6 transfected: sc-117401 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.