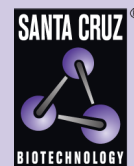


# p-Stat3 (23G5): sc-56747



The Power to Question

## 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- $\alpha$  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 $\beta$  appears to be activated by both while Stat3 $\alpha$  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.

## CHROMOSOMAL LOCATION

Genetic locus: STAT3 (human) mapping to 17q21.2; Stat3 (mouse) mapping to 11 D.

## SOURCE

p-Stat3 (23G5) is a mouse monoclonal antibody raised against a Stat3 phosphopeptide of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## APPLICATIONS

p-Stat3 (23G5) is recommended for detection of Ser 727 phosphorylated Stat3 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Stat3 siRNA (h): sc-29493, Stat3 siRNA (m): sc-29494, Stat3 siRNA (r): sc-270027, Stat3 shRNA Plasmid (h): sc-29493-SH, Stat3 shRNA Plasmid (m): sc-29494-SH, Stat3 shRNA Plasmid (r): sc-270027-SH, Stat3 shRNA (h) Lentiviral Particles: sc-29493-V, Stat3 shRNA (m) Lentiviral Particles: sc-29494-V and Stat3 shRNA (r) Lentiviral Particles: sc-270027-V.

Molecular Weight of p-Stat3 $\alpha$  isoform: 91 kDa.

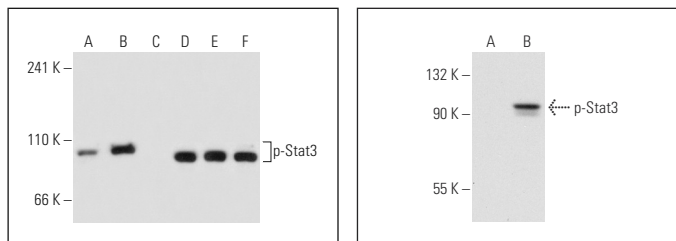
Molecular Weight of p-Stat3 $\beta$  isoform: 86 kDa.

Positive Controls: Stat3 (h3): 293T Lysate: sc-177985, HeLa + IFN- $\gamma$  cell lysate: sc-2222 or 3T3-L1 cell lysate: sc-2243.

## STORAGE

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

## DATA



Western blot analysis of Stat3 phosphorylation in untreated (A, D), mouse LIF (sc-4989) treated (B, E) and LIF and lambda protein phosphatase (sc-200312A) treated (C, F) 3T3-L1 whole cell lysates. Antibodies tested include p-Stat3 (23G5): sc-56747 (A, B, C) and Stat3 (F-2): sc-8019 (D, E, F).

p-Stat3 (23G5): sc-56747. Western blot analysis of Stat3 phosphorylation in non-transfected: sc-117752 (A) and human Stat3 transfected: sc-177985 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Yu, L.J., et al. 2008. Inhibition of Stat3 expression and signaling in resveratrol-differentiated medulloblastoma cells. *Neoplasia* 10: 736-744.
2. Elsarraj, H.S., et al. 2013. A novel role of microRNA146b in promoting mammary alveolar progenitor cell maintenance. *J. Cell Sci.* 126: 2446-2458.
3. Zhang, Z.R., et al. 2017. Cucurbitacin B inhibits cell proliferation and induces apoptosis in human osteosarcoma cells via modulation of the JAK2/Stat3 and MAPK pathways. *Exp. Ther. Med.* 14: 805-812.
4. Li, J., et al. 2018. Effects and mechanism of Stat3 silencing on the growth and apoptosis of colorectal cancer cells. *Oncol. Lett.* 16: 5575-5582.
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6. Yang, F.R., et al. 2019. MicroRNA-7a ameliorates neuropathic pain in a rat model of spinal nerve ligation via the NEFL-dependent Stat3 signaling pathway. *Mol. Pain* 15: 1744806919842464.
7. Fan, X., et al. 2019. Effect of Pim-3 downregulation on proliferation and apoptosis in lung adenocarcinoma A549 cells. *Ann. Clin. Lab. Sci.* 49: 770-776.
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## RESEARCH USE

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