

# Stat3 (285.87): sc-293151

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Stat3 (285.87) is a mouse monoclonal antibody raised against amino acids 1-175 of recombinant Stat3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Stat3 (285.87) is available conjugated to agarose (sc-293151 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-293151 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA.

## APPLICATIONS

Stat3 (285.87) is recommended for detection of Stat3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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 Stat3 $\alpha$  isoform: 91 kDa.

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

Positive Controls: 3T3-L1 cell lysate: sc-2243, Stat3 (h): 293T Lysate: sc-129869 or HeLa whole cell lysate: sc-2200.

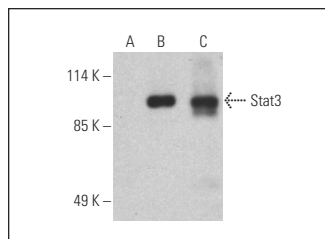
## STORAGE

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

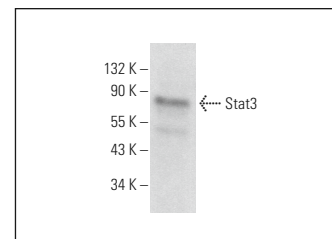
## RESEARCH USE

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

## DATA



Stat3 (285.87): sc-293151. Western blot analysis of Stat3 expression in non-transfected: sc-117752 (A), human Stat3 transfected: sc-129869 (B) and sc-177985 (C) 293T whole cell lysates.



Stat3 (285.87): sc-293151. Western blot analysis of Stat3 expression in 3T3-L1 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Xu, Z., et al. 2016. NF-YA promotes invasion and angiogenesis by upregulating EZH2-Stat3 signaling in human melanoma cells. *Oncol. Rep.* 35: 3630-3638.
- Tan, W., et al. 2017. Ergosterol peroxide inhibits ovarian cancer cell growth through multiple pathways. *Onco Targets Ther.* 10: 3467-3474.
- Liu, S., et al. 2018. MiR-29a inhibits human retinoblastoma progression by targeting Stat3. *Oncol. Rep.* 39: 739-746.
- Shan, D., et al. 2019. MicroRNA-411 inhibits cervical cancer progression by directly targeting Stat3. *Oncol. Res.* 27: 349-358.
- Liu, F., et al. 2019. Gp130 degradation induced by epirubicin contributes to chemotherapy efficacy. *Biochem. Biophys. Res. Commun.* 519: 572-578.
- Zheng, M., et al. 2019. Stat3 promotes invasion and aerobic glycolysis of human oral squamous cell carcinoma via inhibiting FoxO1. *Front. Oncol.* 9: 1175.
- Zhang, C.X., et al. 2019. STING signaling remodels the tumor microenvironment by antagonizing myeloid-derived suppressor cell expansion. *Cell Death Differ.* 26: 2314-2328.
- Chen, Y., et al. 2019. Let-7a inhibits proliferation and promotes apoptosis of human asthmatic airway smooth muscle cells. *Exp. Ther. Med.* 17: 3327-3334.
- Shi, X., et al. 2019. Anticancer activity of bergenin against cervical cancer cells involves apoptosis, cell cycle arrest, inhibition of cell migration and the Stat3 signalling pathway. *Exp. Ther. Med.* 17: 3525-3529.
- Zheng, M., et al. 2019. EZH2 promotes invasion and tumour glycolysis by regulating Stat3 and FoxO1 signalling in human OSCC cells. *J. Cell. Mol. Med.* 23: 6942-6954.

## PROTOCOLS

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