

Stat3 (H-190): sc-7179

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.

CHROMOSOMAL LOCATION

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

SOURCE

Stat3 (H-190) is a rabbit polyclonal antibody raised against amino acids 50-240 of Stat3 p92 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7179 X, 200 μ g/0.1 ml.

APPLICATIONS

Stat3 (H-190) is recommended for detection of Stat3 p92 of mouse, rat, human, *Xenopus laevis* and zebrafish origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Stat3 (H-190) is also recommended for detection of Stat3 p92 in additional species, including equine, canine, bovine, porcine and avian.

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.

Stat3 (H-190) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat3 α isoform: 91 kDa.

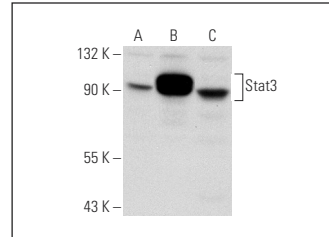
Molecular Weight of Stat3 β isoform: 86 kDa.

Positive Controls: Stat3 (h3): 293T Lysate: sc-177985, NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

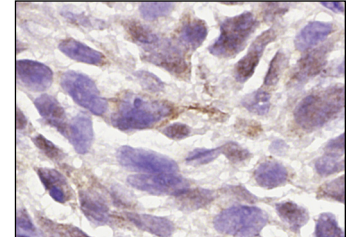
STORAGE

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

DATA



Stat3 (H-190): sc-7179. Western blot analysis of Stat3 expression in non-transfected 293T: sc-117752 (A), human Stat3 transfected 293T: sc-177985 (B) and K-562 (C) whole cell lysates.



Stat3 (H-190): sc-7179. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing cytoplasmic and nuclear staining.

SELECT PRODUCT CITATIONS

- Olayioye, M.A., et al. 1999. ErbB receptor-induced activation of stat transcription factors is mediated by Src tyrosine kinases. *J. Biol. Chem.* 274: 17209-17218.
- Zhang, Y., et al. 2010. A switch from hBrg1 to Brg1 at IFN γ -activated sequences mediates the activation of human genes. *Cell Res.* 20: 1345-1360.
- Wohlmann, A., et al. 2010. Signal transduction by the atopy-associated human thymic stromal lymphopoietin (TSLP) receptor depends on Janus kinase function. *Biol. Chem.* 391: 181-186.
- Davoodi-Semiromi, A., et al. 2012. The tyrophostin agent AG490 prevents and reverses type 1 diabetes in NOD mice. *PLoS ONE* 7: e36079.
- Manea, A., et al. 2012. Positive regulation of NADPH oxidase 5 by proinflammatory-related mechanisms in human aortic smooth muscle cells. *Free Radic. Biol. Med.* 52: 1497-1507.
- Kaminski, K.A., et al. 2012. Interleukin 6 is not necessary for STAT3 phosphorylation and myocardial hypertrophy following short term β -adrenergic stimulation. *Adv. Med. Sci.* 57: 94-99.
- Zhang, W.N., et al. 2012. CUEDC2 (CUE domain-containing 2) and SOCS3 (suppressors of cytokine signaling 3) cooperate to negatively regulate Janus kinase 1/signal transducers and activators of transcription 3 signaling. *J. Biol. Chem.* 287: 382-392.

RESEARCH USE

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



Try **Stat3 (F-2): sc-8019** or **Stat3 (285.87): sc-293151**, our highly recommended monoclonal alternatives to Stat3 (H-190). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Stat3 (F-2): sc-8019**.