

# Stat3 (K-15): sc-483

## 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 (K-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Stat3 of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-483 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-483 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

Stat3 (K-15) is recommended for detection of Stat3 p92 and Stat3 $\beta$  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)], immunofluorescence (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 (K-15) is also recommended for detection of Stat3 p92 and Stat3 $\beta$  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 shRNA Plasmid (h): sc-29493-SH, Stat3 shRNA Plasmid (m): sc-29494-SH, Stat3 shRNA (h) Lentiviral Particles: sc-29493-V and Stat3 shRNA (m) Lentiviral Particles: sc-29494-V.

Stat3 (K-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat3 $\alpha$ : 91 kDa.

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

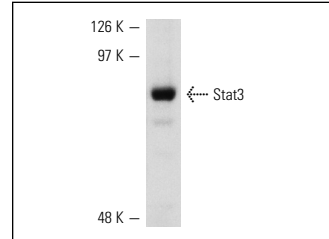
## RESEARCH USE

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

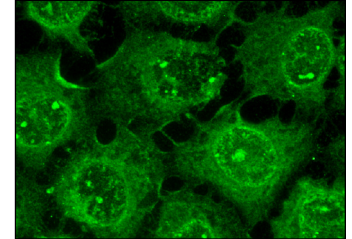
## STORAGE

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

## DATA



Stat3 (K-15): sc-483. Western blot analysis of Stat3 expression in HeLa whole cell lysate.



Stat3 (K-15): sc-483. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear, cytoplasmic and membrane localization.

## SELECT PRODUCT CITATIONS

- Justicia, C., et al. 2000. Activation of the JAK/Stat pathway following transient focal cerebral ischemia: signaling through JAK1 and Stat3 in astrocytes. *Glia* 30: 253-270.
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- Deng, J.Y., et al. 2010. STAT-3 correlates with lymph node metastasis and cell survival in gastric cancer. *World J. Gastroenterol.* 16: 5380-5387.
- Gordon, G.M., et al. 2010. Transforming JAK1 mutations exhibit differential signalling, FERM domain requirements and growth responses to interferon- $\gamma$ . *Biochem. J.* 432: 255-265.
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- Palianopoulou, M., et al. 2011. The activation of leptin-mediated survivin is limited by the inducible suppressor SOCS-3 in MCF-7 cells. *Exp. Biol. Med.* 236: 70-76.
- Niu, J., et al. 2012. DNA damage induces NF- $\kappa$ B-dependent microRNA-21 up-regulation and promotes breast cancer cell invasion. *J. Biol. Chem.* 287: 21783-21795.


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