

# Stat6 (S-20): sc-621

## 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 proteins that have been designated Stats (signal transducers and activators of transcription). The first members of this family to be described include Stat1 $\alpha$  p91, Stat1 $\beta$  p84 (a form of p91 that lacks 38 COOH-terminal amino acids) and Stat2 p113. Stat1 and Stat2 are induced by IFN- $\alpha$  and form a heterodimer which is part of the ISGF3 transcription factor complex. Stat3, which becomes activated in response to epidermal growth factor (EGF) and interleukin-6 (IL-6), but not interferon- $\gamma$  (IFN- $\gamma$ ) or Stat4, is an additional member of this family. It has been suggested that the phosphorylated forms of both Stat3 and Stat4 form homodimers as well as heterodimers with the other members of the Stat family, and that differential activation of different Stat proteins in response to different ligands should help to explain specificity in nuclear signaling from the cell surface. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Other members of the Stat family include Stat5, which has been shown to be activated by prolactin and by IL-3, and Stat6 (also designated IL-4 Stat), which is involved in IL-4-activated signaling pathways.

## REFERENCES

1. 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.
2. Hou, J., et al. 1994. An interleukin-4-induced transcription factor: IL-4 Stat. *Science* 265: 1701-1706.

## CHROMOSOMAL LOCATION

Genetic locus: STAT6 (human) mapping to 12q13.3; Stat6 (mouse) mapping to 10 D3.

## SOURCE

Stat6 (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Stat6 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-621 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-621 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4 $^{\circ}$  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.

## APPLICATIONS

Stat6 (S-20) is recommended for detection of Stat6 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), 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).

Stat6 (S-20) is also recommended for detection of Stat6 in additional species, including equine, canine, bovine and porcine.

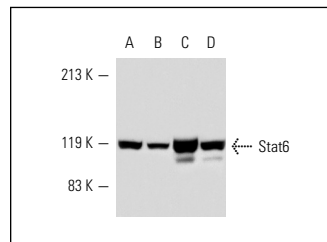
Suitable for use as control antibody for Stat6 siRNA (h): sc-29497, Stat6 siRNA (m): sc-36570, Stat6 shRNA Plasmid (h): sc-29497-SH, Stat6 shRNA Plasmid (m): sc-36570-SH, Stat6 shRNA (h) Lentiviral Particles: sc-29497-V and Stat6 shRNA (m) Lentiviral Particles: sc-36570-V.

Stat6 (S-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

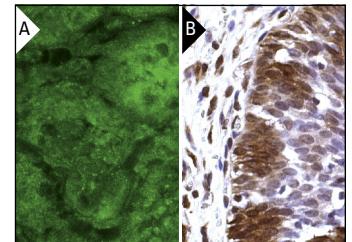
Molecular Weight of Stat6: 119 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, RAW 264.7 whole cell lysate: sc-2211 or BJAB whole cell lysate: sc-2207.

## DATA



Stat6 (S-20): sc-621. Western blot analysis of Stat6 expression in KNRK (A), RAW 264.7 (B), BJAB (C) and Jurkat (D) whole cell lysates.



Stat6 (S-20): sc-621. Immunofluorescence staining of normal mouse kidney frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells (B).

## SELECT PRODUCT CITATIONS

1. Russell, S.M., et al. 1995. Mutation of JAK3 in a patient with SCID: essential role of JAK3 in lymphoid development. *Science* 270: 797-800.
2. Jung, J.E., et al. 2015. STAT-dependent upregulation of 12/15-lipoxygenase contributes to neuronal injury after stroke. *J. Cereb. Blood Flow Metab.* 35: 2043-2051.


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