SANTA CRUZ BIOTECHNOLOGY, INC.

Stat6 (M-20): sc-981

SANTA CRUZ BIOTECHNOLOGY

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 proteins that have been designated Stats (signal transducers and activators of transcription). The first members of this family to be described include Stat1α p91, Stat1β p84 (a form of p91 that lacks 38 COOH-terminal amino acids) and Stat2 p113. Stat1 and Stat2 are induced by IFN-α 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-γ (IFN-γ) or Stat4, is an additional member of this family. The Stat family also includes 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.

CHROMOSOMAL LOCATION

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

SOURCE

Stat6 (M-20) is available as either rabbit (sc-981) or goat (sc-981-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Stat6 of mouse origin.

PRODUCT

Each vial contains either 100 µg (sc-981) or 200 µg (sc-981-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-981 X, 100 µg/0.1 ml.

Stat6 (M-20) is available conjugated to agarose (sc-981 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-981 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Stat6 (M-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 µg per 100-500 µg 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).

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

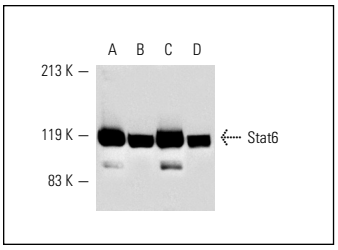
Molecular Weight of Stat6: 119 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

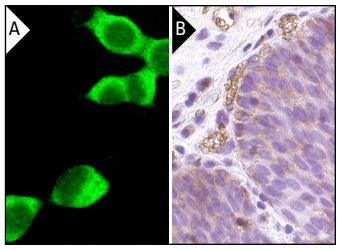
STORAGE

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

DATA



Stat6 (M-20): sc-981. Western blot analysis of Stat6 expression in NIH/3T3 (**A**), KNRK (**B**), RAW 264.7 (**C**) and BJAB (**D**) whole cell lysates.



Stat6 (M-20): sc-981. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Dong, C., et al. 1998. Defective T cell differentiation in the absence of JNK1. Science 282: 2092-2095.
2. van der Meer, D.L., et al. 2010. Profiling of promoter occupancy by PPARα in human hepatoma cells via ChIP-chip analysis. Nucleic Acids Res. 38: 2839-2850.
3. Mazumder, E.D., et al. 2012. A molecular model for the differential activation of STAT3 and STAT6 by the herpesviral oncoprotein tip. PLoS ONE 7: e34306.
4. Rhee, I., et al. 2013. Macrophage fusion is controlled by the cytoplasmic protein tyrosine phosphatase PTP-PEST/PTPN12. Mol. Cell. Biol. 33: 2458-2469.
5. Sheldon, K.E., et al. 2013. Shaping the murine macrophage phenotype: IL-4 and cyclic AMP synergistically activate the arginase I promoter. J. Immunol. 191: 2290-2298.
6. Kotla, S., et al. 2014. Ros-dependent Syk and Pyk2-mediated STAT1 activation is required for 15(S)-hydroxyeicosatetraenoic acid-induced CD36 expression and foam cell formation. Free Radic. Biol. Med. 76: 147-162.
7. Nguyen, M.L., et al. 2016. Dynamic regulation of permissive histone modifications and GATA3 binding underpin acquisition of granzyme A expression by virus-specific CD8+ T cells. Eur. J. Immunol. 46: 307-318.

RESEARCH USE

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