SANTA CRUZ BIOTECHNOLOGY, INC.

Stat1α p91 (M-23): sc-591

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 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 Stat3β appears to be activated by both while Stat3α is activated by EGF, but not by IL-6. Highest expresion 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: STAT1 (human) mapping to 2q32.2; Stat1 (mouse) mapping to 1 C1.1.

SOURCE

Stat1α p91 (M-23) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Stat1α p91 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-591 P, (100 µg 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-591 X, 200 µg/0.1 ml.

APPLICATIONS

Stat1α p91 (M-23) is recommended for detection of Stat1α p91 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 Stat1 p84/p91 siRNA (h): sc-44123, Stat1 p84/p91 siRNA (m): sc-44124, Stat1 p84/p91 shRNA Plasmid (h): sc-44123-SH, Stat1 p84/p91 shRNA Plasmid (m): sc-44124-SH, Stat1 p84/p91 shRNA (h) Lentiviral Particles: sc-44123-V and Stat1 p84/p91 shRNA (m) Lentiviral Particles: sc-44124-V.

Stat1α p91 (M-23) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat1α p91: 91 kDa.

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

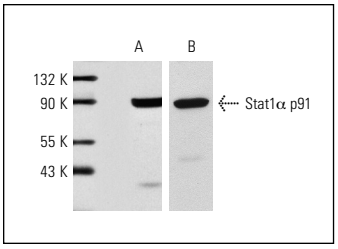
STORAGE

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

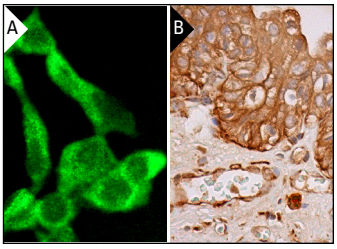
RESEARCH USE

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

DATA



Western blot analysis of Stat1α p91 expression in NIH/3T3 nuclear extracts (**A**,**B**). Antibodies tested include Stat1α p91 (M-23): sc-591 (**A**) and Stat1α p91 (C-111): sc-417 (**B**).



Stat1α p91 (M-23): sc-591. 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 membrane staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

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2. Frobose H,, et al. 2006. Suppressor of cytokine Signaling-3 inhibits interleukin-1 signaling by targeting the TRAF-6/TAK1 complex. Mol. Endocrinol. 20: 1587-1596.
3. Unlu, S., et al. 2007. Phosphorylation of IRF8 in a pre-associated complex with Spi-1/PU.1 and non-phosphorylated Stat1 is critical for LPS induction of the IL1B gene. Mol. Immunol. 44: 3364-3379.
4. Buttmann, M., et al. 2007. Interferon-β is a potent inducer of interferon regulatory factor-1/2-dependent IP-10/CXCL10 expression in primary human endothelial cells. J. Vasc. Res. 44: 51-60.
5. Wang, S., et al. 2008. Stat1 phosphorylation determines Ras oncogenicity by regulating $p27^{kip1}$. PLoS ONE 3: e3476.
6. Yang, X., et al. 2009. Signal transducers and activators of transcription mediate fibroblast growth factor-induced vascular endothelial morphogenesis. Cancer Res. 69: 1668-1677.
7. Hippe, D., et al. 2009. Toxoplasma gondii infection confers resistance against Bim_S-induced apoptosis by preventing the activation and mitochondrial targeting of pro-apoptotic Bax. J. Cell Sci. 122: 3511-3521.
8. Conzelmann, M., et al. 2010. IFN-γ activated JAK1 shifts CD40-induced cytokine profiles in human antigen-presenting cells toward high IL-12p70 and low IL-10 production. Biochem. Pharmacol. 80: 2074-2086.