SANTA CRUZ BIOTECHNOLOGY, INC.

p-Stat1 (Tyr 701): sc-7988

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

p-Stat1 (Tyr 701) is available as either goat (sc-7988) or rabbit (sc-7988-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 701 phosphorylated Stat1 of human 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-7988 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-7988 X, 200 µg/0.1 ml.

APPLICATIONS

p-Stat1 (Tyr 701) is recommended for detection of Tyr 701 phosphorylated Stat1 of mouse, rat, human and *Xenopus* 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) 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.

p-Stat1 (Tyr 701) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-Stat1: 84/91 kDa.

Positive Controls: HeLa + IFN-γ cell lysate: sc-2222 or SK-MEL-28 + IFN-γ cell lysate: sc-2291.

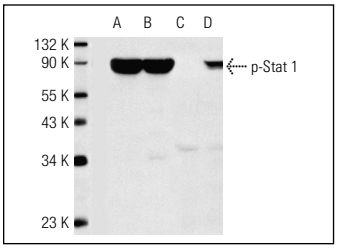
RESEARCH USE

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

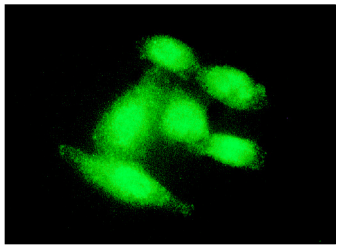
STORAGE

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

DATA



Western blot analysis of Stat1 phosphorylation in untreated (**A**,**C**) and IFN-γ-treated (**B**,**D**) SK-MEL-28 cell cultures. Lanes A,B and C,D probed respectively, with Stat1a p91 (C-111): sc-417 (**A**,**B**) or with p-Stat1 (Tyr 701): sc-7988 (**C**,**D**).



p-Stat1 (Tyr 701): sc-7988. Immunofluorescence staining of methanol-fixed, γ-interferon treated HeLa cells, showing nuclear localization of activated Stat1.

SELECT PRODUCT CITATIONS

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2. Dimitrova, P., et al. 2010. The role of properdin in murine zymosan-induced arthritis. Mol. Immunol. 47: 1458-1466.
3. Rosas-Murrieta, N.H., et al. 2010. Interaction of mumps virus V protein variants with STAT1-STAT2 heterodimer: experimental and theoretical studies. Virol. J. 7: 263.
4. Satie, A.P., et al. 2011. Excess type I interferon signaling in the mouse seminiferous tubules leads to germ cell loss and sterility. J. Biol. Chem. 286: 23280-23295.
5. Fang, Y., et al. 2011. Inhibition of all-*trans*-retinoic acid-induced proteasome activation potentiates the differentiating effect of retinoid in acute myeloid leukemia cells. Mol. Carcinog. 50: 24-35.
6. Zhang, Q., et al. 2011. Activation of the Ras/Raf/MEK pathway facilitates HCV replication via attenuation of the IFN-JAK-STAT pathway. J. Virol. 86: 1544-1554.
7. Chen, C., et al. 2012. Modulation of IFN-γ receptor 1 expression by AP-2α influences IFN-γ sensitivity of cancer cells. Am. J. Pathol. 180: 661-671.
8. Ginter, T., et al. 2012. Histone deacetylase inhibitors block IFNγ-induced STAT1 phosphorylation. Cell. Signal. 24: 1453-1460.
9. Liu, L., et al. 2012. Influenza A virus induces interleukin-27 through cyclooxygenase-2 and protein kinase A signaling. J. Biol. Chem. 287: 11899-11910.