SANTA CRUZ BIOTECHNOLOGY, INC.

Stat1 p84/p91 (E-23): sc-346

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

Stat1 p84/p91 (E-23) is available as either rabbit (sc-346) or goat (sc-346-G) polyclonal affinity purified antibody raised against a peptide mapping near the C-terminus of Stat1 p84/p91 of human origin.

PRODUCT

Each vial contains either 100 µg (sc-346) or 200 µg (sc-346-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-346 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-346 X, 100 µg/0.1 ml.

APPLICATIONS

Stat1 p84/p91 (E-23) is recommended for detection of Stat1β p84 and Stat1α p91 of mouse, rat, human and *Xenopus laevis* 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Stat1 p84/p91 (E-23) is also recommended for detection of Stat1β p84 and Stat1α p91 in additional species, including equine, canine, bovine and porcine.

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 or Stat1 p84/p91 shRNA (m) Lentiviral Particles: sc-44124-V.

Stat1 p84/p91 (E-23) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

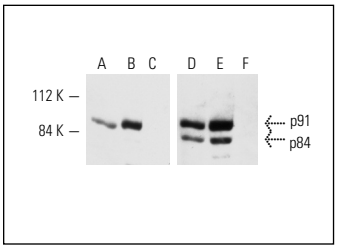
Molecular Weight of Stat1 p84/p91: 86/91 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

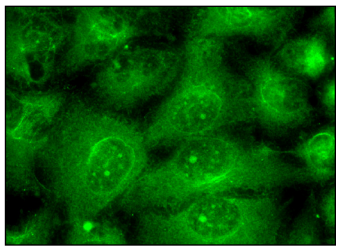
STORAGE

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 Stat1α p91 and Stat1β p84 expression in nuclear extracts of phorbol ester-treated HeLa (**A**,**D**), A-431 (**B**,**E**) and K-562 (**C**,**F**) cells. Antibodies include Stat1α p91 (C-24): sc-345 (**A**-**C**) and Stat1 p84/p91 (E-23): sc-346 (**D**-**F**).



Stat1 p84/p91 (E-23): sc-346. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Marrero, M.B., et al. 1997. Direct stimulation of JAK/Stat pathway by the angiotensin II AT_1 receptor. Nature 375: 247-250.
2. Manea, A., et al. 2012. Positive regulation of NADPH oxidase 5 by proinflammatory-related mechanisms in human aortic smooth muscle cells. Free Radic. Biol. Med. 52: 1497-1507.
3. Schomacker, H., et al. 2012. The C proteins of human parainfluenza virus type 1 block IFN signaling by binding and retaining Stat1 in perinuclear aggregates at the late endosome. PLoS ONE 7: e28382.
4. Steen, H.C., et al. 2013. Identification of STAT2 serine 287 as a novel regulatory phosphorylation site in type I interferon-induced cellular responses. J. Biol. Chem. 288: 747-758.
5. Pollok, S., et al. 2013. Interferon α-armed nanoparticles trigger rapid and sustained STAT1-dependent anti-viral cellular responses. Cell. Signal. 25: 989-998.
6. Ying, M., et al. 2013. Bortezomib sensitizes human acute myeloid leukemia cells to all-*trans*-retinoic acid-induced differentiation by modifying the RARα/STAT1 axis. Mol. Cancer Ther. 12: 195-206.
7. Comeglio, P., et al. 2014. Opposite effects of tamoxifen on metabolic syndrome-induced bladder and prostate alterations: a role for GPR30/GPER? Prostate 74: 10-28.

RESEARCH USE

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