SANTA CRUZ BIOTECHNOLOGY, INC.

p-Stat3 (Ser 727)-R: sc-8001-R

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 ISGF-3 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: STAT3 (human) mapping to 17q21.2; Stat3 (mouse) mapping to 11 D.

SOURCE

p-Stat3 (Ser 727)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 727 phosphorylated Stat3 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8001 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Stat3 (Ser 727)-R is recommended for detection of Ser 727 phosphorylated Stat3 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).

p-Stat3 (Ser 727)-R is also recommended for detection of correspondingly phosphorylated Stat3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Stat3 siRNA (h): sc-29493, Stat3 siRNA (m): sc-29494, Stat3 shRNA Plasmid (h): sc-29493-SH, Stat3 shRNA Plasmid (m): sc-29494-SH, Stat3 shRNA (h) Lentiviral Particles: sc-29493-V and Stat3 shRNA (m) Lentiviral Particles: sc-29494-V.

Molecular Weight of p-Stat3α: 91 kDa.

Molecular Weight of p-Stat3β: 86 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

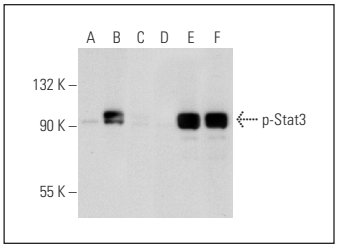
STORAGE

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

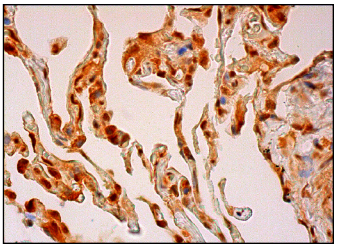
RESEARCH USE

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

DATA



Western blot analysis of Stat3 phosphorylation in untreated (**A**,**D**), EGF treated (**B**,**E**) and EGF and lambda protein phosphatase treated (**C**,**F**) A-431 whole cell lysates. Antibodies tested include p-Stat3 (Ser 727)-R: sc-8001-R (**A**,**B**,**C**) and Stat3 (F-2): sc-8019 (**D**,**E**,**F**).



p-Stat3 (Ser 727)-R: sc-8001-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear and cytoplasmic staining of pneumocytes and macrophages.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2001. MSK1 and JNKs mediate phosphorylation of Stat3 in UVA-irradiated mouse epidermal JB6 cells. J. Biol. Chem. 276: 42534-42542.
2. Courapied, S., et al. 2010. The cdk5 kinase regulates the STAT3 transcription factor to prevent DNA damage upon topoisomerase I inhibition. J. Biol. Chem. 285: 26765-26778.
3. Prasad, S., et al. 2011. Gambogic acid inhibits STAT3 phosphorylation through activation of protein tyrosine phosphatase SHP-1: potential role in proliferation and apoptosis. Cancer Prev. Res. 4: 1084-1094.
4. Nerstedt, A., et al. 2013. Pharmacological activation of AMPK suppresses inflammatory response evoked by IL-6 signalling in mouse liver and in human hepatocytes. Mol. Cell. Endocrinol. 375: 68-78.
5. Kumar, S., et al. 2013. The anticancer potential of flavonoids isolated from the stem bark of *Erythrina suberosa* through induction of apoptosis and inhibition of STAT signaling pathway in human leukemia HL-60 cells. Chem. Biol. Interact. 205: 128-137.
6. Zouein, F.A., et al. 2013. Role of STAT3 in angiotensin II-induced hypertension and cardiac remodeling revealed by mice lacking STAT3 serine 727 phosphorylation. Hypertens. Res. 36: 496-503.
7. Zouein, F.A., et al. 2014. Loss of STAT3 in mouse embryonic fibroblasts reveals its Janus-like actions on mitochondrial function and cell viability. Cytokine 66: 7-16.