

p-Stat3 (Tyr 705): sc-7993

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 Stat3 β appears to be activated by both while Stat3 α is activated by EGF, but not by IL-6. Highest expression 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 (Tyr 705) is available as either goat (sc-7993) or rabbit (sc-7993-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 705 phosphorylated Stat3 of human origin.

PRODUCT

Each vial contains either 100 μ g (sc-7993) or 200 μ g (sc-7993-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7993 P, (100 μ g 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-7993 X, 200 μ g/0.1 ml.

APPLICATIONS

p-Stat3 (Tyr 705) is recommended for detection of Tyr 705 phosphorylated Stat3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

p-Stat3 (Tyr 705) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-Stat3 α isoform: 91 kDa.

Molecular Weight of p-Stat3 β isoform: 86 kDa.

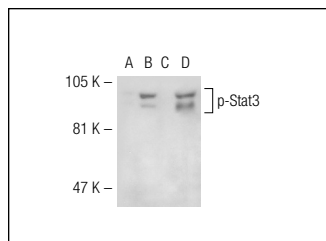
STORAGE

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

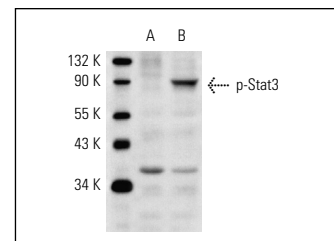
RESEARCH USE

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

DATA



p-Stat3 (Tyr 705)-R: sc-7993-R. Western blot analysis of phosphorylated Stat3 expression in HeLa (A), IFN- α -treated HeLa (B), SK-MEL-28 (C) and IFN- α -treated SK-MEL-28 (D) whole cell lysates.



Western blot analysis of Stat3 phosphorylation in untreated (A) and IFN- α -treated (B) SK-MEL-28 cell cultures. Lanes probed with Stat3 antibody, sc-8019 (A) or with phospho-Stat3 antibody, sc-7993 (B).

SELECT PRODUCT CITATIONS

- 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.
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- Nagel, J.M., et al. 2011. Dietary walnuts inhibit colorectal cancer growth in mice by suppressing angiogenesis. *Nutrition* 28: 67-75.
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