SANTA CRUZ BIOTECHNOLOGY, INC.

p-Stat3 (9E12): sc-81523

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

SOURCE

p-Stat3 (9E12) is a mouse monoclonal antibody raised against a synthetic phosphopeptide corresponding to the region surroounding p-Tyr 705 of Stat3 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-Stat3 (9E12) is recommended for detection of Tyr 705 phosphorylated Stat3 of mouse, rat, human and canine 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).

Suitable for use as control antibody for Stat3 siRNA (h): sc-29493, Stat3 siRNA (m): sc-29494, Stat3 siRNA (r): sc-270027, Stat3 shRNA Plasmid (h): sc-29493-SH, Stat3 shRNA Plasmid (m): sc-29494-SH, Stat3 shRNA Plasmid (r): sc-270027-SH, Stat3 shRNA (h) Lentiviral Particles: sc-29493-V, Stat3 shRNA (m) Lentiviral Particles: sc-29494-V and Stat3 shRNA (r) Lentiviral Particles: sc-270027-V.

Molecular Weight of p-Stat3α: 91 kDa.

Molecular Weight of p-Stat3β: 86 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, 3T3-L1 cell lysate: sc-2243 or Stat3 (m): 293T Lysate: sc-126053.

STORAGE

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

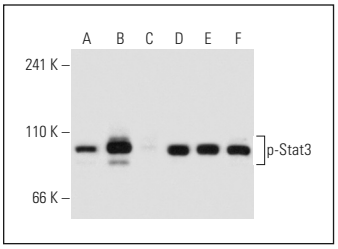
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

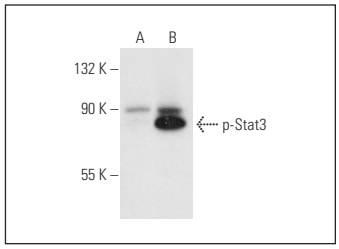
RESEARCH USE

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

DATA



Western blot analysis of Stat3 phosphorylation in untreated (**A**,**D**), mouse LIF (sc-4989) treated (**B**,**E**) and LIF and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) 3T3-L1 whole cell lysates. Antibodies tested include p-Stat3 (9E12): sc-81523 (**A**,**B**,**C**) and Stat3 (F-2): sc-8019 (**D**,**E**,**F**).



p-Stat3 (9E12): sc-81523. Western blot analysis of Stat3 phosphorylation in non-transfected: sc-117752 (**A**) and mouse Stat3 transfected: sc-126053 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Giuliani, M., et al. 2008. Generation of a novel regulatory NK cell subset from peripheral blood CD34+ progenitors promoted by membrane-bound IL-15. PLoS ONE 3: e2241.
2. Wang, X.J., et al. 2016. MiR-183 modulates multi-drug resistance in hepatocellular cancer (HCC) cells via miR-183-IDH2/SOCS6-HIF-1α feedback loop. Eur. Rev. Med. Pharmacol. Sci. 20: 2020-2027.
3. Tran, M., et al. 2017. Loss of miR-141/200c ameliorates hepatic steatosis and inflammation by reprogramming multiple signaling pathways in NASH. JCI Insight 2: e96094.
4. Yan, Y.F., et al. 2018. Celastrol suppresses the proliferation of lung adenocarcinoma cells by regulating microRNA-24 and microRNA-181b. Oncol. Lett. 15: 2515-2521.
5. Sun, W., et al. 2018. "Psoriasis 1" reduces psoriasis-like skin inflammation by inhibiting the VDR-mediated nuclear NFκB and Stat signaling pathways. Mol. Med. Rep. 18: 2733-2743.
6. Chumanevich, A.P., et al. 2018. Methods for analyzing sphingosine-1-phosphate signaling in human and mouse primary mast cells. Methods Mol. Biol. 1697: 21-30.
7. Upadhyay, R., et al. 2018. Host directed therapy for chronic tuberculosis via intrapulmonary delivery of aerosolized peptide inhibitors targeting the IL-10-Stat3 pathway. Sci. Rep. 8: 16610.
8. Deng, S., et al. 2019. HBD inhibits the development of colitis-associated cancer in mice via the IL-6R/Stat3 signaling pathway. Int. J. Mol. Sci. 20: 1069.

CONJUGATES

See **p-Stat3 (B-7): sc-8059** for Stat3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.