

Stat1 (C-111): sc-417

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: STAT1 (human) mapping to 2q32.2; Stat1 (mouse) mapping to 1 C1.1.

SOURCE

Stat1 (C-111) is a mouse monoclonal antibody epitope mapping between amino acids 613-739 of Stat1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-417 X, 200 μ g/0.1 ml.

Stat1 (C-111) is available conjugated to agarose (sc-417 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-417 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-417 PE), fluorescein (sc-417 FITC), Alexa Fluor[®] 488 (sc-417 AF488), Alexa Fluor[®] 546 (sc-417 AF546), Alexa Fluor[®] 594 (sc-417 AF594) or Alexa Fluor[®] 647 (sc-417 AF647), 200 μ g/ml, for WB (R/G/B), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-417 AF680) or Alexa Fluor[®] 790 (sc-417 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Stat1 (C-111) is recommended for detection of Stat1 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Stat1 siRNA (h): sc-44123, Stat1 siRNA (m): sc-44124, Stat1 shRNA Plasmid (h): sc-44123-SH, Stat1 shRNA Plasmid (m): sc-44124-SH, Stat1 shRNA (h) Lentiviral Particles: sc-44123-V and Stat1 shRNA (m) Lentiviral Particles: sc-44124-V.

Stat1 (C-111) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

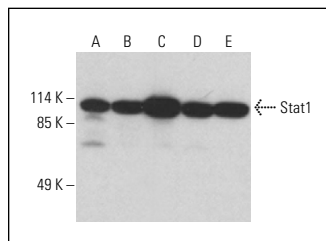
Molecular Weight of Stat1: 91 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, IMR-32 cell lysate: sc-2409 or SK-MEL-24 whole cell lysate: sc-364259.

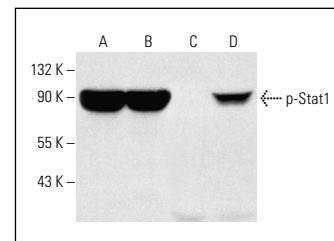
STORAGE

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

DATA



Stat1 (C-111) HRP: sc-417 HRP. Direct western blot analysis of Stat1 expression in IMR-32 (A), SK-MEL-24 (B), SK-MEL-28 (C), MCF7 (D) and HUV-EC-C (E) whole cell lysates.



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

SELECT PRODUCT CITATIONS

- Demoulin, J.B., et al. 1996. A single tyrosine of the interleukin-9 (IL-9) receptor is required for Stat activation, antiapoptotic activity, and growth regulation by IL-9. *Mol. Cell. Biol.* 16: 4710-4716.
- Ginter, T., et al. 2012. Histone deacetylase inhibitors block IFN γ -induced Stat1 phosphorylation. *Cell. Signal.* 24: 1453-1460.
- Klamer, G., et al. 2013. GSK3 inhibition prevents lethal GVHD in mice. *Exp. Hematol.* 41: 39-55.
- Sheikh, F., et al. 2014. An essential role for IFN- β in the induction of IFN-stimulated gene expression by LPS in macrophages. *J. Leukoc. Biol.* 96: 591-600.
- Wang, S., et al. 2015. Stat1 stimulates cap-independent mRNA translation to inhibit cell proliferation and promote survival in response to antitumor drugs. *Proc. Natl. Acad. Sci. USA* 112: E2149-E2155.
- Suyama, K., et al. 2016. CD24 suppresses malignant phenotype by down-regulation of SHH transcription through Stat1 inhibition in breast cancer cells. *Cancer Lett.* 374: 44-53.
- Schäfer, C., et al. 2017. Class I histone deacetylases regulate p53/NF κ B crosstalk in cancer cells. *Cell. Signal.* 29: 218-225.
- Martinez-Lopez, A., et al. 2018. SAMHD1 deficient human monocytes autonomously trigger type I interferon. *Mol. Immunol.* 101: 450-460.
- Dominguez-Gomez, G., et al. 2019. Growth inhibition and transcriptional effects of ribavirin in lymphoma. *Oncol. Rep.* 42: 1248-1256.
- Wignall-Fleming, E.B., et al. 2020. Innate intracellular antiviral responses restrict the amplification of defective virus genomes of Parainfluenza virus type 5. *J. Virol.* 94: e00246-20.

RESEARCH USE

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