SANTA CRUZ BIOTECHNOLOGY, INC.

Stat2 (B-3): sc-514193

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 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: STAT2 (human) mapping to 12q13.3; Stat2 (mouse) mapping to 10 D3.

SOURCE

Stat2 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-26 at the N-terminus of Stat2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-514193 X, 200 µg/0.1 ml.

Stat2 (B-3) is available conjugated to agarose (sc-514193 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514193 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514193 PE), fluorescein (sc-514193 FITC), Alexa Fluor® 488 (sc-514193 AF488), Alexa Fluor® 546 (sc-514193 AF546), Alexa Fluor® 594 (sc-514193 AF594) or Alexa Fluor® 647 (sc-514193 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514193 AF680) or Alexa Fluor® 790 (sc-514193 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Stat2 (B-3) is recommended for detection of Stat2 p113 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Stat2 siRNA (h): sc-29492, Stat2 siRNA (m): sc-37272, Stat2 shRNA Plasmid (h): sc-29492-SH, Stat2 shRNA Plasmid (m): sc-37272-SH, Stat2 shRNA (h) Lentiviral Particles: sc-29492-V and Stat2 shRNA (m) Lentiviral Particles: sc-37272-V.

Stat2 (B-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

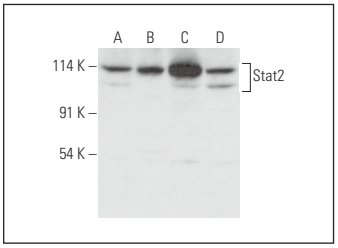
Molecular Weight of Stat2: 113 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

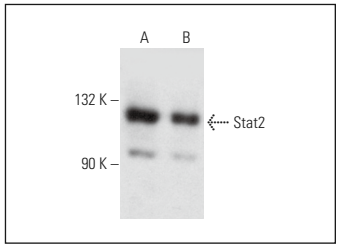
STORAGE

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

DATA



Stat2 (B-3): sc-514193. Western blot analysis of Stat2 expression in ZR-75-1 (**A**), HeLa (**B**), Ramos (**C**) and Jurkat (**D**) whole cell lysates.



Stat2 (B-3): sc-514193. Western blot analysis of Stat2 expression in K-562 (**A**) and MCF7 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Willard, K.A., et al. 2017. Zika virus exhibits lineage-specific phenotypes in cell culture, in aedes aegypti mosquitoes, and in an embryo model. Viruses 9: 383.
2. Wu, L., et al. 2018. KDM5 histone demethylases repress immune response via suppression of STING. PLoS Biol. 16: e2006134.
3. Feng, K., et al. 2019. Heartland virus antagonizes type I and III interferon antiviral signaling by inhibiting phosphorylation and nuclear translocation of Stat2 and Stat1. J. Biol. Chem. 294: 9503-9517.
4. Liu, X., et al. 2020. Identification of natural molecular determinants of ross river virus type I interferon modulation. J. Virol. 94: e01788-19.
5. Escher, T.E., et al. 2021. Enhanced IFNα signaling promotes ligand-independent activation of ERα to promote aromatase inhibitor resistance in breast cancer. Cancers 13: 5130.
6. Vandsemb, E.N., et al. 2021. PRL-3 induces a positive signaling circuit between glycolysis and activation of Stat1/2. FEBS J. 288: 6700-6715.
7. Petit, M.J., et al. 2021. Nuclear dengue virus NS5 antagonizes expression of PAF1-dependent immune response genes. PLoS Pathog. 17: e1010100.
8. Gu, L., et al. 2022. Myeloid cell nuclear differentiation antigen controls the pathogen-stimulated type I interferon cascade in human monocytes by transcriptional regulation of IRF7. Nat. Commun. 13: 14.
9. Xiang, Q., et al. 2022. STAT and Janus kinase targeting by human herpesvirus 8 interferon regulatory factor in the suppression of type-I interferon signaling. PLoS Pathog. 18: e1010676.

RESEARCH USE

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