SANTA CRUZ BIOTECHNOLOGY, INC.

Stat6 (D-1): sc-374021

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 proteins that have been designated Stats (signal transducers and activators of transcription). The first members of this family to be described include Stat1α p91, Stat1β p84 (a form of p91 that lacks 38 COOH-terminal amino acids) and Stat2 p113. Stat1 and Stat2 are induced by IFN-α and form a heterodimer which is part of the ISGF-3 transcription factor complex. Stat3, which becomes activated in response to epidermal growth factor (EGF) and interleukin-6 (IL-6), but not interferon-γ (IFN-γ) or Stat4, is an additional member of this family. It has been suggested that the phosphorylated forms of both Stat3 and Stat4 form homodimers as well as heterodimers with the other members of the Stat family, and that differential activation of different Stat proteins in response to different ligands should help to explain specificity in nuclear signaling from the cell surface. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Other members of the Stat family include Stat5, which has been shown to be activated by Prolactin and by IL-3, and Stat6 (also designated IL-4 Stat), which is involved in IL-4-activated signaling pathways.

CHROMOSOMAL LOCATION

Genetic locus: STAT6 (human) mapping to 12q13.3; Stat6 (mouse) mapping to 10 D3.

SOURCE

Stat6 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 799-823 at the C-terminus of Stat6 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-374021 X, 200 µg/0.1 ml.

Stat6 (D-1) is available conjugated to agarose (sc-374021 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374021 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374021 PE), fluorescein (sc-374021 FITC), Alexa Fluor® 488 (sc-374021 AF488), Alexa Fluor® 546 (sc-374021 AF546), Alexa Fluor® 594 (sc-374021 AF594) or Alexa Fluor® 647 (sc-374021 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374021 AF680) or Alexa Fluor® 790 (sc-374021 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Stat6 (D-1) is recommended for detection of Stat6 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), 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).

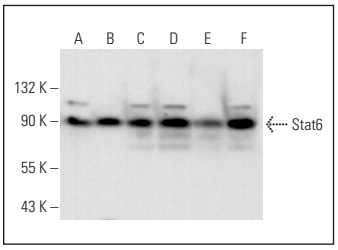
Suitable for use as control antibody for Stat6 siRNA (h): sc-29497, Stat6 siRNA (m): sc-36570, Stat6 shRNA Plasmid (h): sc-29497-SH, Stat6 shRNA Plasmid (m): sc-36570-SH, Stat6 shRNA (h) Lentiviral Particles: sc-29497-V and Stat6 shRNA (m) Lentiviral Particles: sc-36570-V.

Stat6 (D-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

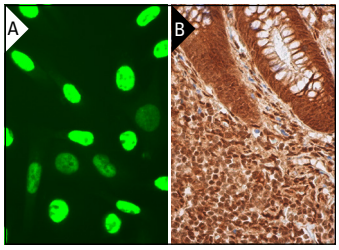
Molecular Weight of Stat6: 119 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or BJAB whole cell lysate: sc-2207.

DATA



Stat6 (D-1): sc-374021. Western blot analysis of Stat6 expression in NIH/3T3 (**A**), MCF7 (**B**), BJAB (**C**), Raji (**D**), Ramos (**E**) and TK-1 (**F**) whole cell lysates.



Stat6 (D-1) Alexa Fluor® 488: sc-374021 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). Stat6 (D-1): sc-374021. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and nuclear staining of glandular cells and lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Yang, G., et al. 2015. Thrombospondin-1 (TSP1)-producing B cells restore antigen (Ag)-specific immune tolerance in an allergic environment. J. Biol. Chem. 290: 12858-12867.
2. Laban, H., et al. 2018. VASP regulates leukocyte infiltration, polarization, and vascular repair after ischemia. J. Cell Biol. 217: 1503-1519.
3. Cangelosi, D., et al. 2019. A proteomic analysis of GSD-1a in mouse livers: evidence for metabolic reprogramming, inflammation, and macrophage polarization. J. Proteome Res. 18: 2965-2978.
4. Mondello, P., et al. 2020. STAT6 activation correlates with cerebrospinal fluid IL-4 and IL-10 and poor prognosis in primary central nervous system lymphoma. Hematol. Oncol. 38: 106-110.

RESEARCH USE

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