

Stat5a (L-20): sc-1081

BACKGROUND

Signal transducer and activator of transcription 5A (Stat5a) and Stat5b, which share 96% homology, undergo receptor tyrosine kinase or G protein-coupled receptor-dependent phosphorylation in response to cytokines or growth factors, and then form homo- or heterodimers that translocate to the nucleus, where they initiate transcription. Activation of Stat5a via IL-2, IL-3, IL-7/GM-CSF, erythropoietin, thrombopoietin and growth hormones influences proliferation, differentiation and apoptosis in lymphohematopoietic cells. Phosphorylation of Stat5a at Ser 127/Ser 128 and Ser 779 are contingent on ErbB-4-mediated activation of Stat5a. Activation of Stat5b via IL-2, IL-4, CSF-1 and growth hormones influences TCR signaling, apoptosis, adult mammary gland development and sexual dimorphism of liver gene expression. Stat5b is the major liver-expressed Stat5 form that has been shown to fuse with the Retinoic acid receptor gene in acute promyelocytic leukemias (APLL). Stat5a/b null mice have severely impaired lymphoid development and differentiation.

CHROMOSOMAL LOCATION

Genetic locus: STAT5A (human) mapping to 17q21.2; Stat5a (mouse) mapping to 11 D.

SOURCE

Stat5a (L-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Stat5a of mouse origin.

PRODUCT

Each vial contains 100 µg IgG 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-1081 X, 100 µg/0.1 ml.

Blocking peptide available for competition studies, sc-1081 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Stat5a (L-20) is recommended for detection of Stat5a of mouse, rat and human 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Stat5b.

Stat5a (L-20) is also recommended for detection of Stat5a in additional species, including equine and canine.

Suitable for use as control antibody for Stat5a siRNA (h): sc-37008, Stat5a siRNA (m): sc-37009, Stat5a shRNA Plasmid (h): sc-37008-SH, Stat5a shRNA Plasmid (m): sc-37009-SH, Stat5a shRNA (h) Lentiviral Particles: sc-37008-V and Stat5a shRNA (m) Lentiviral Particles: sc-37009-V.

Stat5a (L-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

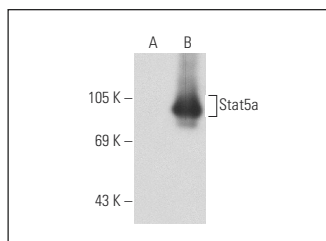
Molecular Weight of Stat5a: 92 kDa.

Positive Controls: Stat5a (h3): 293T Lysate: sc-173719, K-562 nuclear extract: sc-2130 or K-562 whole cell lysate: sc-2203.

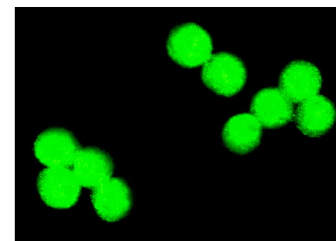
STORAGE

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

DATA



Stat5a (L-20): sc-1081. Western blot analysis of Stat5a expression in non-transfected: sc-117752 (A) and human Stat5a transfected: sc-173719 (B) 293T whole cell lysates.



Stat5a (L-20): sc-1081. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Welte, T., et al. 1999. Stat5 interaction with the T cell receptor complex and stimulation of T cell proliferation. *Science* 283: 222-225.
- Matsumara, I., et al. 1999. Transcriptional regulation of the cyclin D1 promoter by STAT5: its involvement in cytokine-dependent growth of hematopoietic cells. *EMBO J.* 18: 1367-1377.
- Zenatti, P.P., et al. 2011. Oncogenic IL7R gain-of-function mutations in childhood T-cell acute lymphoblastic leukemia. *Nat. Genet.* 43: 932-939.
- Froidevaux-Klipfel, L., et al. 2011. Modulation of septin and molecular motor recruitment in the microtubule environment of the Taxol-resistant human breast cancer cell line MDA-MB-231. *Proteomics* 11: 3877-3886.
- Lee, J.E., et al. 2012. Nongenomic STAT5-dependent effects on Golgi apparatus and endoplasmic reticulum structure and function. *Am. J. Physiol., Cell Physiol.* 302: C804-C820.
- Zhong, J., et al. 2012. TSLP signaling network revealed by SILAC-based phosphoproteomics. *Mol. Cell. Proteomics* 11: M112.
- Honda, T., et al. 2013. Regulation of adipocyte differentiation of 3T3-L1 cells by PDZRN3. *Am. J. Physiol., Cell Physiol.* 304: C1091-C1097.
- Law, J., et al. 2015. Modulator of apoptosis 1 (MOAP-1) is a tumor suppressor protein linked to the RASSF1A protein. *J. Biol. Chem.* 290: 24100-24118.

RESEARCH USE

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



Try **Stat5a (C-6): sc-271542** or **Stat5a (A-7): sc-166479**, our highly recommended monoclonal alternatives to Stat5a (L-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Stat5a (C-6): sc-271542**.