

Stat5a (A-7): sc-166479

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, CSF1 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 α 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 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 765-793 at the C-terminus of Stat5a of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₃ 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-166479 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-166479 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Stat5a (A-7) is recommended for detection of Stat5a of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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 (A-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

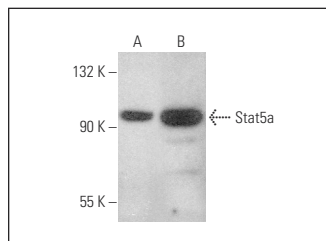
Molecular Weight of Stat5a: 92 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, CCRF-CEM cell lysate: sc-2225 or L8 cell lysate: sc-3807.

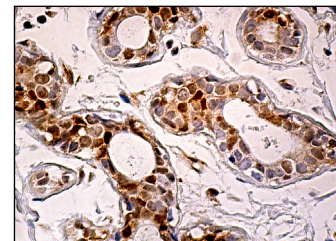
STORAGE

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

DATA



Stat5a (A-7): sc-166479. Western blot analysis of Stat5a expression in BJAB (A) and CCRF-CEM (B) whole cell lysates.



Stat5a (A-7): sc-166479. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Ko, E.K., et al. 2018. JAK/STAT signaling pathway gene expression is reduced following Nelf knockdown in GnRH neurons. *Mol. Cell. Endocrinol.* 470: 151-159.
- López-Moncada, F., et al. 2019. Secreted protein acidic and rich in cysteine (SPARC) induces epithelial-mesenchymal transition, enhancing migration and invasion, and is associated with high Gleason score in prostate cancer. *Asian J. Androl.* 21: 557-564.
- Araldi, R.P., et al. 2020. LIMD2 regulates key steps of metastasis cascade in papillary thyroid cancer cells via MAPK crosstalk. *Cells* 9: 2522.
- Mo, F., et al. 2021. An engineered IL-2 partial agonist promotes CD8⁺ T cell stemness. *Nature* 597: 544-548.
- Wilhelm, T., et al. 2022. Capitalizing on paradoxical activation of the MAPK pathway for treatment of Imatinib-resistant mast cell leukemia. *Hematol. Oncol.* E-published.

RESEARCH USE

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

PROTOCOLS

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

CONJUGATES

See **Stat5a (C-6): sc-271542** for Stat5a antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.