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 (APL). Stat5a/b null mice have severely impaired lymphoid development and differentiation.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: STAT5A (human) mapping to 17q11.2.

RESEARCH USE

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

SOURCE

Stat5a (ED-17) is a mouse monoclonal antibody raised against recombinant Stat5a of human origin.

PRODUCT

Each vial contains 100 µg IgG1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Stat5a (ED-17) is recommended for detection of Stat5a of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

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

Molecular Weight of Stat5a: 92 kDa.


DATA

![Western blot analysis of Stat5a expression in non-transfected: sc-117752 (A) and human Stat5a transfected: sc-173719 (B) 293T whole cell lysates.](image1)

![Western blot analysis of Stat5a expression in K-562 whole cell lysate.](image2)

![Western blot analysis of Stat5a expression in non-transfected: sc-117371 (A) and human Stat5a transfected: sc-173609 (B) 293T whole cell lysates.](image3)

![Western blot analysis of Stat5a expression in K-562 whole cell lysate.](image4)

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![Western blot analysis of Stat5a expression in K-562 whole cell lysate.](image34)