BACKGROUND

Stat5 (signal transducers and activators of transcription 5) is important in regulating T cell functions involving the receptors for interleukin-2 (IL-2). IL-2 stimulates the rapid phosphorylation of both Serine and tyrosine residues of Stat5a and Stat5b in human T lymphocytes and in several IL-2-responsive lymphocytic cell lines. IL-2 differentially induces serine phosphorylation of Stat5a and Stat5b on Ser 726 and Ser 731, respectively. Stat5b is preferentially phosphorylated and displays more protracted Serine phosphorylation kinetics than Stat5a. Both the acid-rich region and the COOH terminus of IL-2Rβ can independently mediate IL-2-induced Stat5a/b Serine phosphorylation, suggesting that Stat5a/b serine phosphorylation occurs at a post-receptor level. Stat5a is phosphorylated on Tyr694 in a prolactin-sensitive manner, whereas serine phosphorylation is constitutive. Activation of Stat5 by IL-2 may help govern the biological effects of IL-2 during the immune response. Ser 779 is constitutively phosphorylated in the mammary gland, and Ser 725 phosphorylation influences prolactin-stimulated in vitro DNA binding activity.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: STAT5A/STAT5B (human) mapping to 17q21.2; Stat5a/Stat5b (mouse) mapping to 11 D.

SOURCE

p-Stat5a/b (Ser 726) is a goat polyclonal antibody raised against a short amino acid sequence containing Ser726 phosphorylated Stat5a/b of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12893 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our website at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

p-Stat5a/b (Ser 726) is recommended for detection of Ser 726 phosphorylated Stat5a and Ser 730 phosphorylated Stat5b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

p-Stat5a/b (Ser 726) is also recommended for detection of correspondingly phosphorylated Stat5a/b in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Stat5a/b: 92/94 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA

SELECT PRODUCT CITATIONS


p-Stat5a/b (Ser 726) R: sc-12893-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells.