SANTA CRUZ BIOTECHNOLOGY, INC.

p-Stat3 (Ser 727): sc-135649

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 the various Stat transcription factors. Stat1 and Stat2 are induced by IFN-α and form a heterodimer which is part of the ISGF3 transcription factor complex. Although early reports indicate Stat3 activation by EGF and IL-6, it has been shown that Stat3β appears to be activated by both while Stat3α is activated by EGF, but not by IL-6. Highest expresion of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Stat5 has been shown to be activated by prolactin and by IL-3. Stat6 is involved in IL-4 activated signaling pathways.

CHROMOSOMAL LOCATION

Genetic locus: STAT3 (human) mapping to 17q21.2; Stat3 (mouse) mapping to 11 D.

SOURCE

p-Stat3 (Ser 727) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 727 phosphorylated Stat3 of human origin.

PRODUCT

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

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.

APPLICATIONS

p-Stat3 (Ser 727) is recommended for detection of Ser 727 phosphorylated Stat3 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Stat3 siRNA (h): sc-29493, Stat3 siRNA (m): sc-29494, Stat3 siRNA (r): sc-270027, Stat3 shRNA Plasmid (h): sc-29493-SH, Stat3 shRNA Plasmid (m): sc-29494-SH, Stat3 shRNA Plasmid (r): sc-270027-SH, Stat3 shRNA (h) Lentiviral Particles: sc-29493-V, Stat3 shRNA (m) Lentiviral Particles: sc-29494-V and Stat3 shRNA (r) Lentiviral Particles: sc-270027-V.

Molecular Weight of p-Stat3α: 91 kDa.

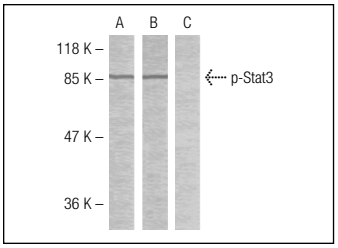
Molecular Weight of p-Stat3β: 86 kDa.

Positive Controls: HeLa + IFN-γ cell lysate: sc-2222, SK-MEL-28 + IFN-γ cell lysate: sc-2291 or HeLa nuclear extract: sc-2120.

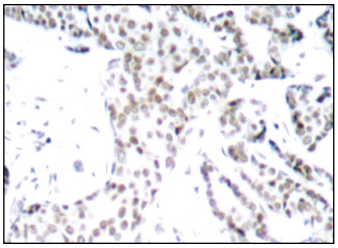
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of phosphorylated Stat3 expression in HeLa cell extracts (**A**,**B**,**C**). Blots were probed with p-Stat3 (Ser 727): sc-135649 (**A**) and p-Stat3 (Ser 727): sc-135649 preincubated with its cognate non-phosphorylated peptide (**B**) and p-Stat3 (Ser 727): sc-135649 preincubated with its cognate phosphorylated peptide (**C**).



p-Stat3 (Ser 727): sc-135649. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Jung, J.E., et al. 2009. Regulation of Mn-superoxide dismutase activity and neuroprotection by STAT3 in mice after cerebral ischemia. J. Neurosci. 29: 7003-7014.
2. Klamer, G., et al. 2013. GSK3 inhibition prevents lethal GVHD in mice. Exp. Hematol. 41: 39-55.
3. Saksida, T., et al. 2014. Compound A, a selective glucocorticoid receptor agonist, inhibits immunoinflammatory diabetes, induced by multiple low doses of streptozotocin in mice. Br. J. Pharmacol. 171: 5898-5909.
4. Wu, M.L., et al. 2014. Short-term resveratrol exposure causes *in vitro* and *in vivo* growth inhibition and apoptosis of bladder cancer cells. PLoS ONE 9: e89806.