SANTA CRUZ BIOTECHNOLOGY, INC.

p-Stat6 (pY641.18): sc-136019

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Membrane receptor signaling by various ligands, including interferons and growth hormones like EGF, induces activation of JAK kinases, which then leads to tyrosine phosphorylation of the various Stat transcription factors. Activated Stat proteins form dimers, translocate to the nucleus, bind to specific response elements in promoters of target genes, and transcriptionally activate these genes. Stimulation of susceptible cells by interleukin-4 (IL-4) leads to activation of Stat6 through the phosphorylation of tyrosine and serine residues. IL-4 activation of Stat6 also leads to dimerization, which directs Stat6 to the nucleus, and renders it a sequence-specific transcription factor. Stat6 is also tyrosine-phosphorylated in response to IL-15, and is involved in IL-4 activated signaling pathways. The activation of Stat6 by JAK family protein tyrosine kinases is essential for the full response of cells to IL-4.

CHROMOSOMAL LOCATION

Genetic locus: STAT6 (human) mapping to 12q13.3.

SOURCE

p-Stat6 (pY641.18) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 641 phosphorylated Stat6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-Stat6 (pY641.18) is recommended for detection of Tyr 641 phosphorylated Stat6 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Stat6 siRNA (h): sc-29497, Stat6 shRNA Plasmid (h): sc-29497-SH and Stat6 shRNA (h) Lentiviral Particles: sc-29497-V.

Molecular Weight of p-Stat6: 105 kDa.

Positive Controls: HeLa + IL-4 cell lysate: sc-24686 or IL-4 treated HUV-EC-C whole cell lysate.

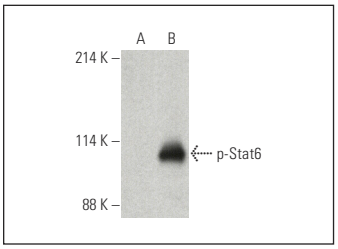
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

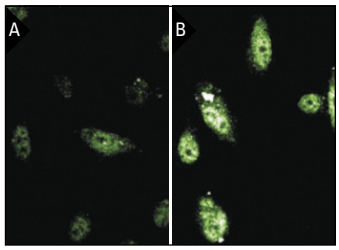
STORAGE

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

DATA



p-Stat6 (pY641.18): sc-136019. Western blot analysis of Stat6 phosphorylation in HUV-EC-C (**A**) and IL-4 treated HUV-EC-C (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



p-Stat6 (pY641.18): sc-136019. Immunofluorescence staining of untreated (**A**) and IL-4-treated (**B**) human endothelial cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Souza, P.P., et al. 2012. Interleukin-4 and interleukin-13 inhibit the expression of leukemia inhibitory factor and interleukin-11 in fibroblasts. Mol. Immunol. 49: 601-610.
2. Urin, V., et al. 2019. CRISPR/Cas9-based knockout strategy elucidates components essential for type 1 interferon signaling in human HeLa cells. J. Mol. Biol. 431: 3324-3338.
3. Koyani, C.N., et al. 2020. Empagliflozin protects heart from inflammation and energy depletion via AMPK activation. Pharmacol. Res. 158: 104870.
4. Gilardini Montani, M.S., et al. 2020. KSHV infection skews macrophage polarisation towards M2-like/TAM and activates Ire1 α-XBP1 axis up-regulating pro-tumorigenic cytokine release and PD-L1 expression. Br. J. Cancer 123: 298-306.
5. Li, J., et al. 2020. Bixin protects against kidney interstitial fibrosis through promoting Stat6 degradation. Front. Cell Dev. Biol. 8: 576988.
6. Fu, B., et al. 2021. MiR-342 controls *Mycobacterium tuberculosis* susceptibility by modulating inflammation and cell death. EMBO Rep. 22: e52252.
7. Liu, P., et al. 2021. Chitooligosaccharides alleviate hepatic fibrosis by regulating the polarization of M1 and M2 macrophages. Food Funct. 13: 753-768.
8. Yang, Y., et al. 2022. Stat6/VDR axis mitigates lung inflammatory injury by promoting Nrf2 signaling pathway. Oxid. Med. Cell. Longev. 2022: 2485250.
9. Li, J., et al. 2022. Stat6 contributes to renal fibrosis by modulating PPARα-mediated tubular fatty acid oxidation. Cell Death Dis. 13: 66.
10. Yang, Y., et al. 2022. Stat6 inhibits ferroptosis and alleviates acute lung injury via regulating P53/SLC7A11 pathway. Cell Death Dis. 13: 530.

RESEARCH USE

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