SANTA CRUZ BIOTECHNOLOGY, INC.

PIASx (L-19): sc-30878

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The IL-6-type family of cytokines, which includes IL-6 and a number of similar cytokines and growth factors, plays a significant role in regulating gene activation, proliferation and differentiation. Transcription factors of the STAT family are involved in IL-6 family-mediated signal transduction pathways, and upon activation undergo phosphorylation, dimerization, and translocation to the nucleus. The duration and intensity of a cell's response to cytokines can be adjusted by the effect of several regulatory mechanisms. One example involves the protein inhibitor of activated signal transducer and activator of transcription (STAT) family (PIAS family) of proteins, which act as negative regulators of STATs in cytokine signaling. PIAS proteins are able to coactivate steroid receptor-dependent transcription as well. PIASx transcript is alternatively spliced to yield 2 protein isoforms, PIASx-α and PIASx-β, which differ in their C-terminal regions (9546). Similar to other members of the PIAS family, the predicted PIASx proteins contain a putative zinc-binding motif and a highly acidic region.

REFERENCES

1. Akira, S., et al. 1994. Molecular cloning of APRF, a novel IFN-stimulated gene factor 3 p91-related transcription factor involved in the gp130-mediated signaling pathway. Cell 77: 63-71.
2. Zhong, Z., et al. 1994. Stat3: a STAT family member activated by tyrosine phosphorylation in response to epidermal growth factor and interleukin-6. Science 264: 95-98.
3. Heinrich, P.C., et al. 1998. Interleukin-6-type cytokine signalling through the gp130/Jak/STAT pathway. Biochem. J. 334: 297-314.
4. Liu, B., et al. 1998. Inhibition of Stat1-mediated gene activation by PIAS1. Proc. Natl. Acad. Sci. USA 95: 10626-10631.
5. Kotaja, N., et al. 2000. ARIP3 (androgen receptor-interacting protein 3) and other PIAS (protein inhibitor of activated STAT) proteins differ in their ability to modulate steroid receptor-dependent transcriptional activation. Mol. Endocrinol. 14: 1986-2000.
6. Liu, B. and Shuai, K. 2001. Induction of apoptosis by protein inhibitor of activated Stat1 through c-Jun NH_2-terminal kinase activation. J. Biol. Chem. 276: 36624-36631.

CHROMOSOMAL LOCATION

Genetic locus: PIAS2 (human) mapping to 18q21.1, PIAS4 (human) mapping to 19p13.3; Pias2 (mouse) mapping to 18 E3, Pias4 (mouse) mapping to 10 C1.

SOURCE

PIASx (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIASx 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-30878 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

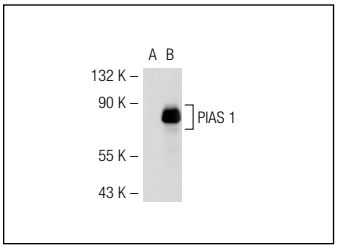
PIASx (L-19) is recommended for detection of PIASx and, to a lesser extent, PIASy of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PIASx (L-19) is also recommended for detection of PIASx and, to a lesser extent, PIASy in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PIASx: 62 kDa.

Positive Controls: PIAS 1 (m): 293T Lysate: sc-122561 or Daudi + IFN-α cell lysate: sc-2266.

DATA



PIASx (L-19): sc-30878. Western blot analysis of PIAS 1 expression in non-transfected: sc-117752 (**A**) and mouse PIAS 1 transfected: sc-122561 (**B**) 293T whole cell lysates.

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