SANTA CRUZ BIOTECHNOLOGY, INC.

PIASx (D-12): sc-166494

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 (signal transducer and activator of transcription) 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 cells response to cytokines can be adjusted by the effect of several regulatory mechanisms. One example involves the protein inhibitor of activated Stat family (PIAS family) of proteins, which act as negative regulators of Stats in cytokine signaling. PIAS proteins are able to co-activate steroid receptor-dependent transcription as well. PIASx transcript is alternatively spliced to yield two protein isoforms, PIASx-α and PIASx-β, which differ in their C-terminal regions. 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.

CHROMOSOMAL LOCATION

Genetic locus: PIAS2 (human) mapping to 18q21.1; Pias2 (mouse) mapping to 18 E3.

SOURCE

PIASx (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 518-540 near the C-terminus of PIASx 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.

PIASx (D-12) is available conjugated to agarose (sc-166494 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166494 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166494 PE), fluorescein (sc-166494 FITC), Alexa Fluor® 488 (sc-166494 AF488), Alexa Fluor® 546 (sc-166494 AF546), Alexa Fluor® 594 (sc-166494 AF594) or Alexa Fluor® 647 (sc-166494 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166494 AF680) or Alexa Fluor® 790 (sc-166494 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166494 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PIASx (D-12) is recommended for detection of PIASx of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

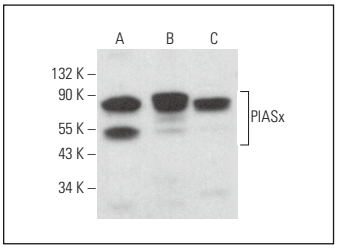
PIASx (D-12) is also recommended for detection of PIASx in additional species, including equine, canine and porcine.

Suitable for use as control antibody for PIASx siRNA (h): sc-40849, PIASx siRNA (m): sc-40850, PIASx shRNA Plasmid (h): sc-40849-SH, PIASx shRNA Plasmid (m): sc-40850-SH, PIASx shRNA (h) Lentiviral Particles: sc-40849-V and PIASx shRNA (m) Lentiviral Particles: sc-40850-V.

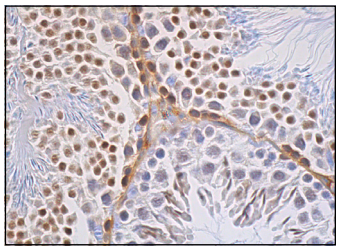
Molecular Weight of PIASx: 62 kDa.

Positive Controls: F9 cell lysate: sc-2245, RAW 264.7 whole cell lysate: sc-2211 or P19 cell lysate: sc-24760.

DATA



PIASx (D-12): sc-166494. Western blot analysis of PIASx expression in F9 (**A**), P19 (**B**) and RAW 264.7 (**C**) whole cell lysates.



PIASx (D-12): sc-166494. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing nuclear staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Szymura, S.J., et al. 2020. DDX39B interacts with the pattern recognition receptor pathway to inhibit NF-κB and sensitize to alkylating chemotherapy. BMC Biol. 18: 32.
2. Chen, S.Y., et al. 2024. Protein inhibitor of activated signal transducer and activator of transcription 2 is an oncoprotein in oral squamous cell carcinoma and related to cigarette smoking—an *in vitro* study. J. Dent. Sci. 19: 1983-1990.

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.