

PIASy (F-9): sc-166744

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 co-activate steroid receptor-dependent transcription as well. Human PIASy is a 510 amino acid transcriptional corepressor of the androgen receptor (AR). In addition, PIASy may regulate p53-mediated events and may direct p53 into a trans-activation-independent mode of apoptosis.

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. Starr, R., et al. 1999. Negative regulation of the JAK/Stat pathway. *Bioessays* 21: 47-52.

CHROMOSOMAL LOCATION

Genetic locus: PIAS4 (human) mapping to 19p13.3; Pias4 (mouse) mapping to 10 C1.

SOURCE

PIASy (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 80-120 near the N-terminus of PIASy of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PIASy (F-9) is recommended for detection of PIASy 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIASy siRNA (h): sc-40851, PIASy siRNA (m): sc-40852, PIASy shRNA Plasmid (h): sc-40851-SH, PIASy shRNA Plasmid (m): sc-40852-SH, PIASy shRNA (h) Lentiviral Particles: sc-40851-V and PIASy shRNA (m) Lentiviral Particles: sc-40852-V.

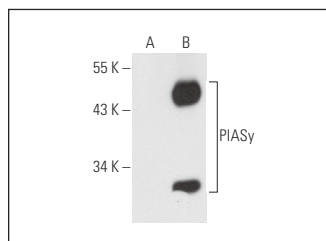
Molecular Weight of PIASy: 57 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233 or PIASy (h): 293T Lysate: sc-114469.

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, UltraCruz® Blocking Reagent: sc-516214 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.

DATA



PIASy (F-9): sc-166744. Western blot analysis of PIASy expression in non-transfected: sc-117752 (A) and human PIASy transfected: sc-114469 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wu, Z., et al. 2015. An LRP16-containing preassembly complex contributes to NFκB activation induced by DNA double-strand breaks. *Nucleic Acids Res.* 43: 3167-3179.
2. Weickert, P., et al. 2023. SPRTN patient variants cause global-genome DNA-protein crosslink repair defects. *Nat. Commun.* 14: 352.

RESEARCH USE

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