

PIASy (H-75): sc-50347

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. 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

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- 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.
- Heinrich, P.C., et al. 1998. Interleukin-6-type cytokine signalling through the gp130/JAK/Stat pathway. *Biochem. J.* 334: 297-314.
- Liu, B., et al. 1998. Inhibition of Stat1-mediated gene activation by PIAS1. *Proc. Natl. Acad. Sci. USA* 95: 10626-10631.
- Starr, R., et al. 1999. Negative regulation of the JAK/Stat pathway. *Bioessays* 21: 47-52.
- 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. Endoc.* 14: 1986-2000.
- Liu, B., et al. 2001. Induction of apoptosis by protein inhibitor of activated Stat1 through c-Jun NH₂-terminal kinase activation. *J. Biol. Chem.* 276: 36624-36631.
- Nelson, V., et al. 2001. A putative protein inhibitor of activated Stat (PIASy) interacts with p53 and inhibits p53-mediated transactivation but not apoptosis. *Apoptosis* 6: 221-234.

CHROMOSOMAL LOCATION

Genetic locus: PIAS4 (human) mapping to 19p13.3.

SOURCE

PIASy (H-75) is a rabbit polyclonal antibody raised against amino acids 61-135 mapping within an internal region of PIASy of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PIASy (H-75) is recommended for detection of PIASy 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)], 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).

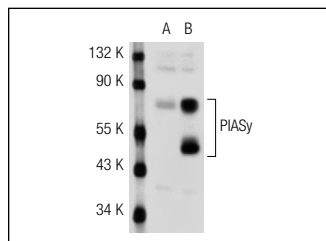
PIASy (H-75) is also recommended for detection of PIASy in additional species, including equine, canine, bovine and porcine.

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

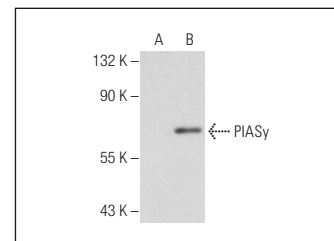
Molecular Weight of PIASy: 57 kDa.

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

DATA



PIASy (H-75): sc-50347. Western blot analysis of PIASy expression in non-transfected: sc-117752 (A) and human PIASy transfected: sc-114469 (B) 293T whole cell lysates.



PIASy (H-75): sc-50347. Western blot analysis of PIASy expression in non-transfected: sc-117752 (A) and human PIASy transfected: sc-170620 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Luciani, A., et al. 2009. SUMOylation of tissue transglutaminase as link between oxidative stress and inflammation. *J. Immunol.* 183: 2775-2784.

STORAGE

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



Try **PIASy (C-11): sc-166706** or **PIASy (H-9): sc-376315**, our highly recommended monoclonal alternatives to PIASy (H-75).