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Product Information

Monoclonal Anti-PIASy

Clone PIA4

produced in mouse, purified immunoglobulin

Catalog Number **P0104**

Product Description

Monoclonal Anti-PIASy (mouse IgG1 isotype) is derived from the hybridoma PIA4 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 491-504 of human PIASy (Gene ID: 51588). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-PIASy recognizes human PIASy. The antibody may be used in ELISA, immunoblotting (~70 kDa), and immunocytochemistry.

Cytokines activate the Janus family of tyrosine kinases (JAK) by binding to their corresponding receptors. Activated JAK kinases phosphorylate a family of at least seven cytoplasmic transcription factors termed STATs (signal transducer and activator of transcription) that mediate specific transcriptional responses. STAT proteins are down regulated by proteins of the PIAS family (**P**rotein **I**nhibitor of **A**ctivated **S**TAT).

In vertebrates, four PIAS proteins are known: PIAS-1, -3, -x, and -y.¹⁻³ The PIAS family of proteins has been proposed to function as small ubiquitin-related modifier (SUMO)-E3 ligase. Their E3 activity depends on a RING-finger-like domain. PIAS1 and PIASy were shown to catalyze sumoylation of p53 and LEF1, respectively. PIASy was found to interact with Smad3 and to antagonize Smad-3-dependent transcriptional activation by T β R-1. These effects are probably mediated by sumoylation of Smad3 by PIASy.⁴ It has been found that sumoylation of p53 by PIASy regulates the interaction of p53 with MDM2 and drives the export of p53 from the nucleus to the cytoplasm.⁵ In addition, PIASy may have a direct role in the execution of the senescence program in cells.⁶ Thus PIASy has different regulatory mechanisms on different protein substrates.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 μ g/mL is recommended using total cell extract of HEK-293T cells transfected with human PIASy.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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