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## Product Information

### Monoclonal Anti-PIAS3

#### Clone PIA3

produced in mouse, purified immunoglobulin

Catalog Number **P0117**

#### Product Description

Monoclonal Anti-PIAS3 (mouse IgG1 isotype) is derived from the hybridoma PIA3 produced by the fusion of mouse myeloma cells (NS1) and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 591-604 of human PIAS3 (Gene ID: 10401). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-PIAS3 recognizes human, bovine, canine, mouse, and chicken PIAS3. The antibody may be used in ELISA, immunoblotting (~68 kDa; an additional band at 44 kDa may appear), and immunocytochemistry.

STAT proteins are latent cytoplasmic transcription factors activated by tyrosine phosphorylation in response to cytokine stimulation. PIAS3, an inhibitor of activated STAT3, was identified using sequence similarity to PIAS1, an inhibitor of activated STAT1, in EST database searches and cDNA library screening. PIAS3 gene encodes for a deduced 619-amino acid protein and has a molecular mass of ~68 kDa. It shares ~55% identity with PIAS1 and PIASX proteins, and 39% identity with PIASY. PIAS3 is widely expressed<sup>1-4</sup> in various human tissues. PIAS3 and other members of this family can interact with many transcription families. They can act as SUMO E3 ligases and interfere with the transcription activity of many transcription factors. For example, PIAS3 binds to microphthalmia-associated transcription factor (MITF), a key DNA-binding protein, in rat basophilic leukemia cells and mouse melanocytes. PIAS3 can block MITF DNA-binding activity, and co-expression of MITF and PIAS3 in NIH 3T3 cells inhibits MITF-driven transcription activity. The interaction between PIAS3 and MITF was independent of STAT3 binding.<sup>1-4</sup>

#### 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: ~2 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 continuous use, store at 2-8 °C for up to one month. For extended storage, freeze 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 2-4 µg/mL is recommended using HepG2 total cell extract.

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

#### References

1. Chung, C.D., et al., *Science*, **278**, 1803-1805 (1997).
2. Levy, C., et al., *J. Biol. Chem.*, **277**, 1962-1966 (2002).
3. Ueki, N., et al., *J. Hum. Genet.*, **44**, 193-196, (1999).
4. Sharrocks, A.D., *Genes & Develop.*, **20**, 754-758 (2006).

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