

Product Information

Anti-Protein Phosphatase 5 (PP5)

Developed in Rabbit, Fractionated Antibody

Product Number **P 9868**

Product Description

Anti-Protein Phosphatase 5 (PP5) is developed in rabbit using as immunogen a synthetic peptide derived from the human phosphatase 5 protein. The antiserum is purified by ammonium sulfate fractionation. Anti-PP5 specifically recognizes protein serine threonine phosphatase 5 (58 kDa). The antibody detects human PP5. It is used in immunoblotting applications.

A variety of biological processes such as cell signaling, transcription, and mitosis are regulated by reversible protein phosphorylation at serine and threonine residues. The serine/threonine kinases are responsible for phosphorylation and the phosphatases are required for dephosphorylation. A number of protein serine/threonine phosphatases are known and molecular characterization shows that they fall into distinct groups within one family that include the PP1, PP2A, and PP2B genes and their relatives.

In 1994, Chen et al. described a protein serine/threonine phosphatase designated PP5, that shared similarity to the yeast gene PPT1.¹ PP5 is a human protein serine/threonine phosphatase with a molecular weight of 58 kDa. It is made up of a C-terminal phosphatase catalytic domain and an N-terminal domain, which has four repeats of 34 amino acids, three of which are tandemly arranged. The phosphatase domain contains all of the invariant motifs of the PP1/PP2A/PP2B gene family. However, it is not closely related to any other known member of this family of phosphatases and thus it makes up a new subfamily.

PP5 expressed in bacteria has been shown to dephosphorylate serine residues in proteins and is more sensitive than PP1 to the tumor promoter okadaic acid. PP5 promotes cell proliferation via inhibition of a glucocorticoid receptor (GR)-induced antiproliferative

signaling cascade, and facilitates neoplastic transformation via the inhibition of a growth-arresting p53-mediated response.² PP5 is localized to the nucleus suggesting that, like other nuclear tetratricopeptide (TPR)-containing proteins, it may play a role in the regulation of RNA biogenesis and mitosis.³

Reagent

Anti-PP5, at approximately 1 mg/ml, is supplied as a solution in phosphate buffered saline, containing 0.08% sodium azide. The amount of the reagent is sufficient for 10 blots.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

Store at -20 °C. For extended storage, upon initial thawing, freeze in working aliquots. Do not store in frost-free freezers. Avoid repeated freezing and thawing to prevent denaturing the antibody. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately.

Product Profile

A recommended working concentration of 5 to 10 µg/ml is determined by immunoblotting using A549 or MCF-7 cell lysates.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Chen, M. X., et al., A novel human protein serine/threonine phosphatase, which possesses four tetratricopeptide repeat motifs and localizes to the nucleus. EMBO J., **13**, 4278-4290 (1994).
2. Zuo, Z., et al., Ser/Thr protein phosphatase type 5 (PP5) is a negative regulator of glucocorticoid receptor-mediated growth arrest. Biochemistry, **38**, 8849-8857 (1999).
3. Chinkers, M., et al., Protein phosphatase 5 in signal transduction. Trends Endocrinol. Metab., **12**, 28-32 (2001).

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