# ProductInformation

**ANTI-SERINE/THREONINE PROTEIN PHOSPHATASE 2A/B' PAN 2**
Developed in Rabbit, IgG Fraction of Antiserum

Product Number **P8359**

## Product Description

Anti-Serine/Threonine Protein Phosphatase 2A/B' Pan 2 is developed in rabbit using a highly purified peptide VSSPHFQVAERALY as the immunogen.

Anti-Serine/Threonine Protein Phosphatase 2A/B' Pan 2 recognizes an epitope common to the ~56 kDa protein phosphatase 2A B' subunits from rat brain by immunoblotting.

The balance between protein kinase and phosphatase activities is responsible for controlling the level of protein phosphorylation and is a central mechanism controlling a wide range of cellular processes. Protein phosphatases are present in all eukaryotic cells and regulate several cellular processes among them cell-cycle progression, transcriptional regulation, cell growth, differentiation and apoptosis. The serine/threonine phosphatases have been classified into four groups which include PP1, PP2A, PP2B (also termed calcineurin) and PP2C on the basis of differences in their biochemical properties.[1,2] Protein phosphatase 1, 2A and 2B are highly homologous members of the same family, but differ in their substrate specificity and interaction with regulatory molecules.[2,3] PP2C appears to belong to an unrelated family.[4]

Protein Phosphatase 2A (PP2A) is a multimeric serine/threonine phosphatase that is implicated in numerous cellular processes including: cellular metabolism, DNA replication, transcription, RNA splicing, translation, cell-cycle progression, morphogenesis, development and transformation.[5,6] The PP2A holoenzyme consists of a catalytic subunit (C), a structural subunit (A) and a regulatory subunit (B).[7]

There are three distinct classes of B subunits (B, B' and B"), coded by at least 13 genes, many of which contain alternative splice sites.[6] B subunits of PP2A appear to have several functions. First, they provide the targeting information necessary to direct the heterotrimer to the appropriate intracellular location.[8] Second, B subunits determine the substrate specificity of the enzyme through tissue-specific and developmentally regulated expression patterns of B subunit genes that regulate which substrates are subject to dephosphorylation in specific tissues.[9] Lastly, some second messengers may activate PP2A through B subunits.[10] The fact that several DNA tumor viruses encode enzymes that regulate PP2A activity by displacing the B subunit demonstrates the importance of the regulatory role of the B subunit.[11]

The B' (B56) family of B subunits are ubiquitously expressed.[12,13] However, the β and δ isoforms are enriched in the brain. Additionally, B' subunit isoforms are differentially localized within intracellular compartments. The α, β, and ε isoforms are localized to the cytoplasm, while the γ and δ isoforms are localized to the nucleus.

## Reagents

Anti-Serine/Threonine Protein Phosphatase2 A/B' Pan 2 is supplied as 100 µg of purified IgG in phosphate buffered saline with 0.08% sodium azide.

## 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

Antibodies should be stored at –20°C. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. 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

The recommended working dilution is 1:500 to 1:1000 for immunoblotting using peroxidase conjugated goat anti-rabbit IgG and chemiluminescent detection.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

**References**


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