ProductInformation

Anti-Serine/Threonine Protein Phosphatase 2A/B γ
Developed in Rabbit, IgG Fraction of Antiserum

Product Number **P5359**

Product Description

Anti-Serine/Threonine Protein Phosphatase 2A/B γ is developed in rabbit using a highly purified peptide REPSKNAPHSQGE corresponding to the internal conserved sequence of mammalian protein phosphatase 2 A/B γ (amino acid residues 53-66) as the immunogen.

Anti-Serine/Threonine Protein Phosphatase 2A/B γ recognizes 56 kDa protein phosphatase 2A/B γ isoforms from human, mouse, rat and bovine 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). The diversity of PP2A substrates requires diversity of the enzyme. Since the C and A subunits of PP2A are well conserved it is the B subunits that regulate PP2A substrate specificity. They do this largely by targeting the holoenzyme to the proper cellular location.[7] There are three distinct classes of B subunits (α, β, and γ), coded by at least 13 genes containing alternative splice sites.[6]

Bγ is targeted to the nucleus.[8] The PP2A holoenzyme has been implicated in several nuclear processes including regulation of transcription by CREB and AP-1, in the dephosphorylation of p53, and in controlling the activity of the retinoblastoma protein.[9,10,11]

Reagents

Anti-Serine/Threonine Protein Phosphatase 2A/B γ 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 1-10 µg/ml 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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