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ProductInformation

Monoclonal Anti-Protein Phosphatase 2Aα (PP2Aα)
Clone 5H4,
Antibody produced in rat, tissue culture supernatant

Catalog Number **P 8998**

Product Description

Monoclonal Anti-Protein Phosphatase 2Aα (PP2Aα) (rat IgM isotype) is derived from the hybridoma 5H4 produced by the fusion of mouse myeloma cells (P3X63 Ag 8.653 cells) and splenocytes from rat (Lou/C) immunized with purified human PP2Aα subunit.[1] The antibody is supplied as a culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Protein Phosphatase 2Aα (PP2Aα) recognizes human PP2Aα (~65 kDa) and cross-reacts with *Xenopus laevis*[2] and mouse[3] PP2Aα. The antibody epitope resides within repeat 1 near the N terminus of human PP2Aα.[1] The antibody may be used in ELISA,[1] immunoblotting,[1,4] and immunoprecipitation (immunoprecipitates the free A subunit and core enzyme, but not the holoenzyme).[1,4]

Phosphoprotein phosphatases comprise a large family of enzymes that hydrolyze the phosphoester bonds of phosphoserines, phosphothreonines, or phosphotyrosines. While many phosphatases inhibit activities of phosphorylation cascades, some activate them. The tyrosine phosphatase CD45, for example, activates the Src family tyrosine kinases by dephosphorylating an inhibitory phosphotyrosine residue.[5-7] Phosphoserine/threonine phosphatases comprise two gene families of metallo-enzymes: phosphoprotein phosphatase P (PPP) family and phosphoprotein phosphatase M family (PPM). Phosphotyrosine phosphatases (PTPs) and dual specificity phosphatases belong to several gene families which possess a conserved cysteine for catalysis and some conserved features of 3-dimensional structure.[5-7]

Protein phosphatase 2A (PP2A) holoenzyme is composed of a catalytic subunit (C) and two regulatory subunits (A and B). The A and C subunits exist as two isoforms (α and β) while the B subunit contains three families called B, B', and B'' with no sequence homology.

The PP2A catalytic subunit forms heterotrimers with two other subunits and interacts with several inhibitory proteins. The large number of different subunits and interactions give rise to a large number of PP2A variants that differ in cellular localization, tissue localization, and activity. PP2A is involved in the regulation of diverse cellular processes. This regulation is effected through control of signaling pathways by a mechanism of phosphorylation/dephosphorylation together with a variety of protein kinases. Importantly, PP2A is believed to play a role in the regulation of NF-κB signaling, which has been shown to promote cell survival and escape from apoptosis.[5-8]

Reagent

The antibody is supplied as a culture supernatant containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety 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

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

A working dilution of 1:5,000–10,000 is determined by immunoblotting using extracts of 293T cells transfected with PP2Aα.

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

References

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