

Product Information

Anti-CNPase antibody, Mouse monoclonal
clone 11-5B, purified from hybridoma cell culture

Product Number **SAB4200693**

Product Description

Anti-CNPase antibody, Mouse monoclonal, (mouse IgG1 isotype) is derived from the 11-5B hybridoma produced by the fusion of mouse myeloma cells and splenocytes from RBF/Dn mouse immunized with human 2',3'-cyclic nucleotide 3'-phosphodiesterase (E.C.3.1.4.37, CNPase). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Anti-CNPase antibody, Mouse monoclonal recognizes CNPase of human, bovine, mouse, rat, rabbit, dog, sheep and pig origin but not guinea pig or chicken.^{1,2} The antibody may be used in various immunochemical techniques including immunoblotting (CNP1 (46kD) and CNP2 (48kD)) and immunohistochemistry.^{1,3}

CNPase (2',3'-cyclic nucleotide 3'-phosphodiesterase), also known as CNP, is a membrane-anchored enzyme within the myelin sheath.³ CNPase is highly concentrated in central myelin in oligodendrocytes and, in a lesser degree, in peripheral myelin and Schwann cells, hence it is widely used as a marker for myelogenesis.⁴ In mammalian brain, CNPase is primarily a heterodimer of approximately 94 kDa. The heterodimer consists of a varied proportion of CNPase isoforms CNP1 (46 kD) and CNP2 (48 kD). The two isoforms are identical except for 20 amino acids extension in the N-terminal region of CNP1 which functions as mitochondrial targeting signal.⁵ CNPase interacts with cytoskeletal proteins, cholesterol-rich cell membranes, nucleotides and various other proteins.⁶⁻⁷ Abnormalities in CNPase expression cause perturbations in myelin structure and are associated with neurological diseases such as schizophrenia and multiple sclerosis.⁸⁻⁹ It was shown that CNPase is able to bind Gag structural protein and prevent the assembly of HIV-1 particle, demonstrating the anti-viral activity of CNPase.¹⁰

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the 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 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 5-10 µg/mL is recommended using whole rat brain extract.

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

References

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