

Product Information

Anti-Monoamine Oxidase B

produced in rabbit, affinity isolated antibody

Product Number **M1821**

Product Description

Anti-Monoamine Oxidase B is produced in rabbit using as immunogen a synthetic peptide corresponding to a fragment of rat monoamine oxidase B (MAO-B) (GeneID 25750), conjugated to KLH. This sequence is identical in mouse and highly conserved (two amino acid substitutions) in human MAO-B. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Monoamine Oxidase B specifically recognizes human, mouse, and rat MAO-B by immunoblotting (~58 kDa). Detection of the MAO-B band by immunoblotting is specifically inhibited by the immunizing peptide.

Monoamine oxidases (MAOs) are the main degradative enzymes responsible for the oxidative deamination of biogenic amines, such as epinephrine, norepinephrine, serotonin (5-HT), and dopamine, in the central nervous system (CNS) and peripheral tissues.¹⁻³ MAOs are mitochondrial flavoprotein enzymes, localized to the mitochondrial outer membrane. There are two types of monoamine oxidases, MAO-A and MAO-B that are encoded by two separate genes. They share 70% amino acid sequence identity and differ in substrate and inhibitors selectivity and in their cellular localization.

MAO-A oxidatively deaminates epinephrine, norepinephrine, and serotonin (5-HT), and is mainly found in the brain adrenergic and noradrenergic neurons. MAO-B is considered the predominant isoform responsible for dopamine metabolism in the human CNS. It is mainly found in the brain in dopaminergic, serotonergic, and histaminergic neurons, as well as in astrocytes.^{4,5} MAOs are involved in many behavioral processes and their inhibition has marked effects on brain function. Deficiency or low level of expression of MAO-A gene results in a phenotype of aggressive behavior. MAO-B activity correlates with personality traits. Alterations in MAO-B activity may underlie dopamine pathobiology in major depression. Selective MAO-B inhibitors elevate synaptosomal dopamine concentrations, and have recently shown clinical efficacy in the treatment of early Parkinson's disease.⁶

Reagent

Supplied as a solution in 0.01 M PBS, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

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, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1.0 µg/mL is recommended using rat liver mitochondrial fraction.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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3. Rodriguez, M.J. et al., *Cell Tissue Res.*, **304**, 215-220 (2001).
4. Arai, R. et al., *Brain Res.*, **745**, 352-356 (1997).
5. Arai, R. et al., *Neurosci.*, **114**, 825-835 (2002).
6. Fernandez, H.H., and Chen, J.J., *Clin. Neuropharmacol.*, **30**, 150-168 (2007).

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