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Product Information

Anti-PMP70
produced in rabbit, affinity isolated antibody

Catalog Number **P0497**

Product Description

Anti-PMP70 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 644-659 of rat PMP70 with N-terminal added cysteine, conjugated to KLH. The corresponding sequence is identical in mouse and differs by one amino acid in human. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PMP70 recognizes rat, mouse, and human PMP70. Applications include immunoblotting (70 kDa), immunoprecipitation and immunofluorescence. Detection of the PMP70 band by immunoblotting is specifically inhibited with the immunizing peptide.

The 70 kDa peroxisomal membrane protein, PMP70, also designated PXMP1 and ABCD3 or ABD3, is one of the major components of peroxisomal membranes. The peroxisome is a multifunctional single-membrane organelle present in nearly all eukaryotic cells. One of the most important metabolic processes of the peroxisome is the β-oxidation of long and very long chain fatty acids. Peroxisomes are also involved in detoxification of the cell by the enzyme catalase that decomposes hydrogen peroxide, a toxic byproduct of cellular metabolism.[1]

PMP70 belongs to the ALD subfamily of the ATP-binding cassette (ABC) transporter superfamily. It is a half-size ABC integral membrane protein consisting of 6 transmembrane domains and one ATP-binding domain. PMP70 homodimers or heterodimers with other half-transporter molecules such as ABCD1/ALD or ABCD2/ALDR constitute the active transporter.[2] PMP70 participates in the metabolic transport of long and very long fatty acids into peroxisomes. It forms a stable complex with the adrenoleukodystrophy protein, ALDP, and several other peroxisomal proteins. ATP binding/hydrolysis by PMP70 and ALDL and their phosphorylation are involved in the regulation of fatty acid transport into peroxisomes.[3]

Mutations in the PMP70 (PXMP1) gene may cause a subset of Zellweger syndrome-2, an autosomal recessive disorder that is manifested by a defective import mechanism for peroxisomal matrix enzymes.[4]

Antibodies to PMP70 are useful tools for studying subcellular localization and proliferation of peroxisomes, and for their immunoisolation.

Reagent

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

Antibody Concentration: 1-1.5 mg/ml

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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 antibody concentration of 0.5-1 µg/ml is recommended using whole extracts of rat PC12 cells or rat kidney extract or rat liver extract and a chemiluminescent detection reagent.

Immunoprecipitation: 1-2 µg of the antibody immunoprecipitates PMP70 from 0.5 mg of RIPA extract from human HepG2 cells.

Indirect immunofluorescence: a working antibody concentration of 4-8 µg/ml is recommended for staining mouse NIH-3T3 cells.

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

References

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2. Kamijo, K., et al., J. Biol. Chem., **265**, 4534-4540 (1990).
3. Tanaka, A.R., et al., J. Biol. Chem., **277**, 40142-40147 (2002).
4. Gartner, J., et al., Nat. Genet., **1**, 16-23 (1992).

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