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Product Information

Anti-PMP70–Atto 488
produced in rabbit, affinity isolated antibody

Catalog Number **P0090**

Product Description

Anti-PMP70 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 644-659 of rat PMP70 (Gene ID: 25270), conjugated to KLH. The corresponding sequence is identical in mouse and differs by one amino acid in human. The product is prepared by conjugation of the affinity purified Anti-PMP70 antibody to Atto 488-NHS, Catalog Number 41698, and the conjugate is purified by gel filtration to remove unbound Atto 488-NHS fluorophore.

Anti-PMP70–Atto 488 conjugate recognizes rat, mouse and human PMP70. Applications include the detection and localization of PMP70 by direct immuno-fluorescence.

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 mechanisms for peroxisomal matrix enzymes.[4]

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

Reagent

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

Antibody concentration: ~ 1.5-3.0 mg/ml
Molar Ratio (F/P): 2-9

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. Working dilution samples should be discarded if not used within 12 hours. Store the product protected from light

Product Profile

Direct Immunofluorescence: a working concentration of 10-20 μg/mL is recommended using human HeLa cells.
Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Geuze, H.J., et al., *Mol. Biol. Cell*, **14**, 2900-2907 (2003).
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., *Nature Genet*., **1**, 16-23 (1992).

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