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ProductInformation

Anti-LAMP1
produced in rabbit, affinity isolated antibody

Catalog Number **L1418**

Product Description

Anti-LAMP1 is developed in rabbit using a synthetic peptide corresponding to amino acid residues 405-416 of human LAMP1 with N-terminal added cysteine-glycine, conjugated to KLH, as immunogen. The corresponding sequence is identical in rat and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-LAMP1 recognizes human, mouse, and rat LAMP1 by immunofluorescence. Detection of the LAMP1 protein is specifically inhibited by the immunizing peptide.

Lysosome-associated membrane protein 1 (LAMP1), also termed Igp120, is a heavily glycosylated lysosomal membrane protein of about 120 kDa. It consists of a ~40 kDa core polypeptide with O-linked and 18 asparagine-linked oligosaccharide side chains. Some of the N-glycans are very complex poly-N-acetyllactosamines. This heavy glycosylation of LAMP1 may be important to protect the lysosomal membrane from proteolytic enzymes within lysosomes.[1, 2] LAMP1 protein contains a leader sequence, a large intralumenal region consisting of 2 homologous domains separated by a hinge region rich in proline and serine, a 24-amino acid transmembrane region, and a short cytoplasmic tail containing the lysosomal membrane targeting signal. Each homologous domain of the intralumenal region contains 4 cysteine residues that form 2 disulfide bonds.[3-5] LAMP1 is ubiquitously expressed and highly conserved. It localizes mainly to lysosomes although a small portion is detected on the cell surface. It was found that highly metastatic tumor cells express more LAMP molecules on the cell surface than poorly metastatic cells.[3]

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

Due to the sodium azide content, a material safety data 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Indirect immunofluorescence: a working antibody concentration of 5-10 µg/mL is recommended using human HeLa, rat NRK, and mouse NIH-3T3 cells.

Anti-LAMP1 may be used as a lysosomal marker.

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

References

1. Chen, J. W., et al., *J. Biol. Chem.*, **263**, 8754-8758 (1988).
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3. Fukuda, M., J. Biol. Chem., **266**, 21327-21330 (1991).
4. Conesa, M., et al., *Biochem. J.*, **370**, 703-711 (2003).
5. Rohrer, J., et. al., *J. Cell Biol.*, **132**, 565-576 (1996).

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