

Mouse monoclonal antibody to Lysosomal Associated Membrane Protein 1 [LAMP1]

Catalogue No.:	M-1652-100
Description:	<p>LAMP1 (Lysosomal Associated Membrane Protein 1, also known as CD107a, lysosomal associated membrane glycoprotein 1, LGP120 and LAMPA) is a protein primarily associated with the lysosomal membrane. In a typical cell LAMP1 is associated with spherical vesicles located next to the nucleus and the microtubule organizing center (1). LAMP1 is found on the cell surface of lymphocytes undergoing degranulation, a process in which cytoplasmic vesicles fuse with the plasma membrane, and this phenomena resulted in discovery of LAMP1 as a CD protein. The LAMP1 protein has a large N-terminal region which is inside the lysosome, hence topologically external to the cell, which is often referred to as the luminal domain (2). The luminal domain consists of two homologous globular segments separated by a proline rich sequence. Next there is a single membrane spanning domain and a short 11 amino acid C-terminal cytoplasmic tail. This tail region contains, at the extreme C-terminus, a so-called YXXI motif which is responsible for the sorting of the intact molecule to the endosome and lysozome, where Y = tyrosine, I = isoleucine and X = almost any amino acid (3). This motif is found in several other lysosomal proteins, where it functions in the same way. There are 417 amino acids in the human LAMP1 molecule, giving a native molecular weight of 44.8kDa. However the N-terminal luminal segment of LAMP1 is very heavily and variably glycosylated due to the presence of 18 N-linked glycosylation sites, so that on SDS-PAGE and on Western blots the protein runs as a diffuse band at 90-120kDa. Antibodies to LAMP1 are therefore excellent markers of lysosomes in mammalian cells, though some LAMP1 may also be seen on late endosomes and on the plasma membrane.</p>
Unit size:	100 ug
Antigen:	Recombinant LAMP1 expressed and purified from E. coli.
Antibody Type:	Monoclonal
Isotype:	IgG1
Clone:	6E2
Other Names:	Lysosomal Associated Membrane Protein 1, also known as CD107a, lysosomal associated membrane glycoprotein 1, LGP120 and LAMPA
Produced in:	Mouse
Applications:	Western Blotting (WB) and Immunocytochemistry (IC). A dilution of 1:5,000 - 1:10,000 is recommended for WB. A dilution of 1:1,000 - 1:2,000 is recommended for IC. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	The antibody reacts with a diffuse band at ~90 kDa to 120 kDa by Western blot on HeLa cell extract. It has also been used successfully for immunocytochemistry.
Species Against:	Human, bovine, porcine, rat and mouse. It is expected that it will work on other mammal tissues.
Antibody Against:	Lysosomal Associated Membrane Protein 1 [LAMP1]

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- Form:** Lyophilized from PBA. Contains 5% trehalose.
- Appearance:** White powder
- Reconstitution:** Reconstitute in sterile distilled water. Centrifuge to remove any insoluble material.
- Storage:** After reconstitution of lyophilized antibody, aliquot and store at -20C for a higher stability. Avoid freeze-thaw cycles.
- Expiry Date:** 12 months after purchase
- General References:**
1. Matteoni, R. and Kreiss, T. E. Translocation and clustering of endosomes and lysosomes depends on microtubules. *J. Cell Biol.* 105:1253-1265 (1987).
 2. Howe CL, Granger BL, Hull M, Green SA, Gabel CA, Helenius A, Mellman I. Derived protein sequence, oligosaccharides, and membrane insertion of the 120-kDa lysosomal membrane glycoprotein (lgp120): identification of a highly conserved family of lysosomal membrane glycoproteins. *Proc Natl Acad Sci U S A.* 85:7577-81 (1988).
 3. Rohrer J, Schweizer A, Russell D, Kornfeld S. The targeting of Lamp1 to lysosomes is dependent on the spacing of its cytoplasmic tail tyrosine sorting motif relative to the membrane. *J Cell Biol.* 132:565-76 (1996).



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