

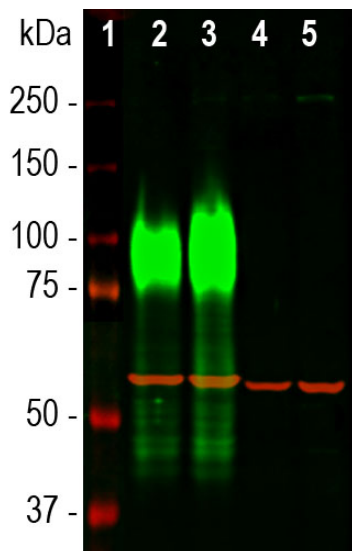
Ordering Information
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HGNC Name: LAMP1
UniProt: P11279
RRID: AB_2572342
Immunogen: amino acids 32-350 of the human LAMP1 precursor sequence in NP_005552.3 purified from *E. coli*
Format: Purified at 1mg/mL in PBS, 50% glycerol, 5mM Na₃N
Storage: Store at 4°C for short term, for longer term at -20°C
Recommended dilutions:
 WB: 1:10,000. IF/ICC: 1:2,000. Not recommended for IHC

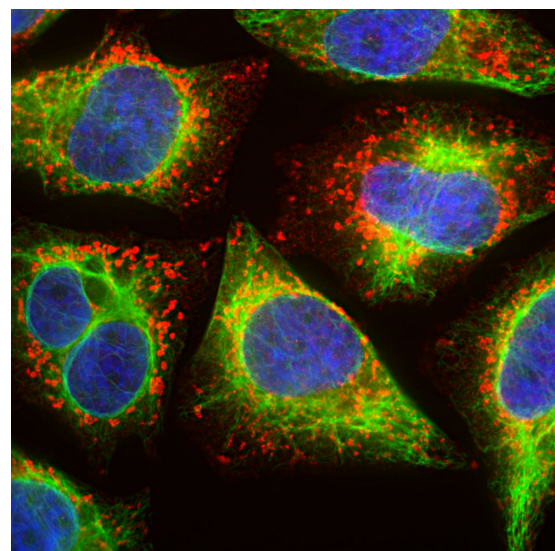
References:

1. Matteoni R, Kreiss TE. Translocation and clustering of endosomes and lysosomes depends on microtubules. *J. Cell Biol.* 105:1253-65 (1987).
2. Howe CL, et al. 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. *PNAS* 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).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC	Mouse	IgG1 heavy, κ light	~90-120kDa	Hu



Western blot analysis of different cell lysates using mouse mAb to LAMP1, MCA-5H6 dilution 1:10,000 in green. Cells were maintained under normal conditions (Ct), or treated with 50μM of chloroquine (CQ), an inhibitor of autophagy, for 24 hours: [1] protein standard (red), [2] HeLa Ct, [3] HeLa+CQ, [4] NIH-3T3 Ct, and [5] NIH-3T3+CQ. The smeared band between 75-120kDa corresponds to variably glycosylated forms of the LAMP1 protein detected only in the human cells, this antibody does not recognize the rodent LAMP1 homologue. The same blot was probed with chicken pAb to heat shock 60 protein (HSP60), [CPCA-HSP60](#), dilution 1:20,000. The HSP60 antibody reveals a band with apparent molecular weight of 60kDa in all preparations.



Immunofluorescent analysis of HeLa cells stained with mouse mAb to LAMP1, MCA-5H6, dilution 1:500 in red, and costained with chicken pAb to vimentin, [CPCA-Vim](#), dilution 1:10,000, in green. The blue is DAPI staining of nuclear DNA. The cells were treated with 50μM of chloroquine, an inhibitor of autophagy, for 16 hours prior to staining. The MCA-5H6 antibody reveals vesicular staining of LAMP1 protein accumulated in swollen lysosomes, while the CPCA-Vim antibody specifically labels the intermediate filament network in these cells.

Background:

LAMP1 is an acronym for "lysosomal membrane associated protein 1", and, as the name suggests, LAMP1 is a protein primarily associated with the lysosomal membrane. 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. The protein is also known as CD107a, lysosomal associated membrane glycoprotein 1, LGP120 and LAMPA, as the protein was independently discovered and named by several different labs.

The MCA-5H6 was made against amino acids 32-350 of the human LAMP1 precursor sequence in [NP_005552.3](#) expressed in and purified from *E. coli*. The construct is missing the N-terminal leader sequence and the C-terminal membrane spanning and cytoplasmic sequence, and so corresponds to the lysosomal luminal domain. The antibody is human specific and works well on HeLa, HEK293 and other cell lines of human origin, binding to luminal LAMP1. This antibody can be used to visualize lysosomes in human cells and to quantify lysosomal content in human cells by western blotting.

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Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.