10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

LAMP2 / CD107b Antibody
Mouse Monoclonal Antibody
Catalog # ALS13612

Specification

LAMP2 / CD107b Antibody - Product Information

Application	**IHC**
Primary Accession	P13473
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**45kDa KDa**

LAMP2 / CD107b Antibody - Additional Information

Gene ID 3920

Other Names
Lysosome-associated membrane glycoprotein 2, LAMP-2, Lysosome-associated membrane protein 2, CD107 antigen-like family member B, CD107b, LAMP2

Target/Specificity
Recognizes human LAMP 2.

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions
LAMP2 / CD107b Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

LAMP2 / CD107b Antibody - Protein Information

Name LAMP2

Function
Lysosomal membrane glycoprotein which plays an important role in lysosome biogenesis, lysosomal pH regulation and autophagy (PubMed:8662539, PubMed:11082038, PubMed:18644871, PubMed:24880125, PubMed:27628032, PubMed:36586411, PubMed:37390818). Acts as an important regulator of lysosomal lumen pH regulation by acting as a direct inhibitor of the proton channel TMEM175, facilitating lysosomal acidification for optimal hydrolase activity (PubMed:37390818). Plays an

important role in chaperone-mediated autophagy, a process that mediates lysosomal degradation of proteins in response to various stresses and as part of the normal turnover of proteins with a long biological half-live (PubMed:8662539, PubMed:11082038, PubMed:18644871, PubMed:24880125, PubMed:27628032, PubMed:36586411). Functions by binding target proteins, such as GAPDH, NLRP3 and MLLT11, and targeting them for lysosomal degradation (PubMed:8662539, PubMed:11082038, PubMed:18644871, PubMed:24880125, PubMed:36586411). In the chaperone- mediated autophagy, acts downstream of chaperones, such as HSPA8/HSC70, which recognize and bind substrate proteins and mediate their recruitment to lysosomes, where target proteins bind LAMP2 (PubMed:36586411). Plays a role in lysosomal protein degradation in response to starvation (By similarity). Required for the fusion of autophagosomes with lysosomes during autophagy (PubMed:27628032). Cells that lack LAMP2 express normal levels of VAMP8, but fail to accumulate STX17 on autophagosomes, which is the most likely explanation for the lack of fusion between autophagosomes and lysosomes (PubMed:27628032). Required for normal degradation of the contents of autophagosomes (PubMed:27628032). Required for efficient MHC class II-mediated presentation of exogenous antigens via its function in lysosomal protein degradation; antigenic peptides generated by proteases in the endosomal/lysosomal compartment are captured by nascent MHC II subunits (PubMed:20518820, PubMed:15894275). Is not required for efficient MHC class II-mediated presentation of endogenous antigens (PubMed:20518820).

Cellular Location
Lysosome membrane {ECO:0000255|PROSITE- ProRule:PRU00740, ECO:0000269|PubMed:11082038, ECO:0000269|PubMed:17897319, ECO:0000269|PubMed:18644871, ECO:0000269|PubMed:2912382}; Single-pass type I membrane protein {ECO:0000255|PROSITE-ProRule:PRU00740, ECO:0000269|PubMed:17897319} Endosome membrane; Single-pass type I membrane protein {ECO:0000255|PROSITE-ProRule:PRU00740, ECO:0000269|PubMed:17897319}. Cell membrane; Single-pass type I membrane protein {ECO:0000255|PROSITE-ProRule:PRU00740, ECO:0000269|PubMed:17897319}. Cytoplasmic vesicle, autophagosome membrane {ECO:0000250|UniProtKB:P17047}. Note=This protein shuttles between lysosomes, endosomes, and the plasma membrane

Tissue Location
Isoform LAMP-2A is highly expressed in placenta, lung and liver, less in kidney and pancreas, low in brain and skeletal muscle (PubMed:7488019, PubMed:26856698). Isoform LAMP-2B is detected in spleen, thymus, prostate, testis, small intestine, colon, skeletal muscle, brain, placenta, lung, kidney, ovary and pancreas and liver (PubMed:7488019, PubMed:26856698). Isoform LAMP-2C is detected in small intestine, colon, heart, brain, skeletal muscle, and at lower levels in kidney and placenta (PubMed:26856698).

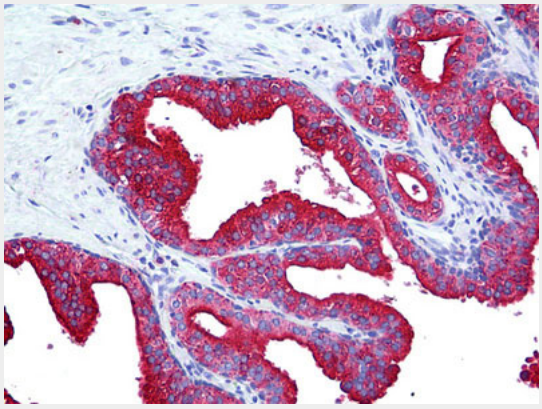
LAMP2 / CD107b Antibody - Protocols

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

LAMP2 / CD107b Antibody - Images



Anti-LAMP2 antibody IHC of human prostate.

LAMP2 / CD107b Antibody - Background

Implicated in tumor cell metastasis. May function in protection of the lysosomal membrane from autodigestion, maintenance of the acidic environment of the lysosome, adhesion when expressed on the cell surface (plasma membrane), and inter- and intracellular signal transduction. Protects cells from the toxic effects of methylating mutagens.

LAMP2 / CD107b Antibody - References

Fukuda M.,et al.J. Biol. Chem. 263:18920-18928(1988).
Sawada R.,et al.J. Biol. Chem. 268:9014-9022(1993).
Fritz G.,et al.J. Biol. Chem. 268:21102-21112(1993).
Konecki D.S.,et al.Biochem. Biophys. Res. Commun. 205:1-5(1994).
Konecki D.S.,et al.Biochem. Biophys. Res. Commun. 215:757-767(1995).