

LAMP2/CD107b Protein, Human (HEK293, His)

Cat. No.:	HY-P72525
Synonyms:	Lysosome-Associated Membrane Glycoprotein 2; LAMP-2; CD107 Antigen-Like Family Member B; CD107b
Species:	Human
Source:	HEK293
Accession:	P13473 (L29-F375)
Gene ID:	3920
Molecular Weight:	60-120 kDa

PROPERTIES

AA Sequence	<pre> L E L N L T D S E N A T C L Y A K W Q M N F T V R Y E T T N K T Y K T V T I S D H G T V T Y N G S I C G D D Q N G P K I A V Q F G P G F S W I A N F T K A A S T Y S I D S V S F S Y N T G D N T T F P D A E D K G I L T V D E L L A I R I P L N D L F R C N S L S T L E K N D V V Q H Y W D V L V Q A F V Q N G T V S T N E F L C D K D K T S T V A P T I H T T V P S P T T T P T P K E K P E A G T Y S V N N G N D T C L L A T M G L Q L N I T Q D K V A S V I N I N P N T T H S T G S C R S H T A L L R L N S S T I K Y L D F V F A V K N E N R F Y L K E V N I S M Y L V N G S V F S I A N N N L S Y W D A P L G S S Y M C N K E Q T V S V S G A F Q I N T F D L R V Q P F N V T Q G K Y S T A Q E C S L D D D T I </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.2.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	LAMP2, a lysosomal membrane glycoprotein, assumes a pivotal role in lysosome biogenesis, lysosomal pH regulation, and autophagy. It acts as a crucial regulator of lysosomal lumen pH by directly inhibiting the proton channel TMEM175, facilitating optimal lysosomal acidification for effective hydrolase activity. LAMP2 plays a significant role in chaperone-
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mediated autophagy, participating in the lysosomal degradation of proteins during various stresses and as part of the normal turnover of long-lived proteins. This function involves binding target proteins such as GAPDH, NLRP3, and MLLT11 and directing them for lysosomal degradation. In chaperone-mediated autophagy, LAMP2 operates downstream of chaperones like HSPA8/HSC70, which recognize and bind substrate proteins, mediating their recruitment to lysosomes where LAMP2 facilitates binding. Furthermore, LAMP2 is essential for the fusion of autophagosomes with lysosomes during autophagy, influencing the degradation of autophagosomal contents. Additionally, LAMP2 is required for the efficient presentation of exogenous antigens via MHCII-mediated pathways, as it modulates chaperone-mediated autophagy and decreases the presentation of endogenous antigens by MHCI, highlighting its multifaceted roles in cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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