

## LAMP1/CD107a Protein, Rat (HEK293, Fc)

<b>Cat. No.:</b>	HY-P74782
<b>Synonyms:</b>	Lysosome-Associated Membrane Glycoprotein 1; LAMP-1; CD107a
<b>Species:</b>	Rat
<b>Source:</b>	HEK293
<b>Accession:</b>	P14562 (A22-N371)
<b>Gene ID:</b>	25328
<b>Molecular Weight:</b>	Approximately 125 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> A P A L F E V K D N   N G T A C I M A S F   S A S F L T T Y D A   G H V S K V S N M T L P A S A E V L K N   S S S C G E K N A S   E P T L A I T F G E   G Y L L K L T F T K N T T R Y S V Q H M   Y F T Y N L S D T Q   F F P N A S S K G P   D T V D S T T D I K A D I N K T Y R C V   S D I R V Y M K N V   T I V L W D A T I Q   A Y L P S S N F S K E E T R C P Q D Q P   S P T T G P P S P S   P P L V P T N P S V   S K Y N V T G D N G T C L L A S M A L Q   L N I T Y M K K D N   T T V T R A F N I N   P S D K Y S G T C G A Q L V T L K V G N   K S R V L E L Q F G   M N A T S S L F F L   Q G V Q L N M T L P D A I E P T F S T S   N Y S L K A L Q A S   V G N S Y K C N S E   E H I F V S K A L A L N V F S V Q V Q A   F R V E S D R F G S   V E E C V Q D G N N </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	LAMP1/CD107a protein, a lysosomal membrane glycoprotein, assumes a pivotal role in lysosome biogenesis, lysosomal pH regulation, autophagy, and cholesterol homeostasis. It acts as a crucial regulator of lysosomal lumen pH by directly inhibiting the proton channel TMEM175, promoting optimal lysosomal acidification for efficient hydrolase activity. Beyond
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its involvement in cellular homeostasis, LAMP1 contributes significantly to NK-cell cytotoxicity. Mechanistically, it participates in the movement of cytotoxic granules to the cell surface and the trafficking of perforin to the lytic granule, safeguarding NK-cells from degranulation-associated damage caused by their own cytotoxic granule content. Moreover, LAMP1 plays a role in presenting carbohydrate ligands to selectins. Interactions with proteins like ABCB9 and FURIN are essential, stabilizing ABCB9 and protecting it from lysosomal degradation, while also inhibiting the proton channel activity of TMEM175.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA