

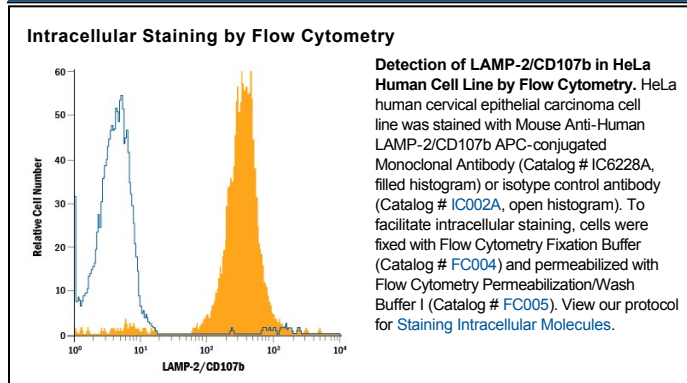
DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human LAMP-2/CD107b in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human LAMP-1 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 743320
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human LAMP-2/CD107b Leu29-Phe375 Accession # P13473
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 μ L/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Lysosomal Associated Membrane Protein 2 (LAMP-2), also known as CD107b and LGP110, is an approximately 110 kDa transmembrane glycoprotein that is a major component of lysosomal membranes (1). Mature human LAMP-2 consists of a 347 amino acid (aa) intraluminal domain, a 24 aa transmembrane segment, and a 35 aa cytoplasmic tail (2). Its luminal domain is organized into two heavily N-glycosylated regions separated by a Ser/Pro-rich linker that carries a minor amount of O-linked glycosylation (2, 3). Alternate splicing generates a human LAMP-2 isoform (LAMP-2B) with a substituted juxtamembrane luminal region, transmembrane segment, and cytoplasmic tail (4). Within the luminal domain, human LAMP-2 shares approximately 64% aa sequence identity with mouse and rat LAMP-2. LAMP-2 itself is subject to lysosomal degradation following cleavage of its luminal domain (5). It mediates the lysosomal uptake of the chaperone HSC73 in complex with cargo proteins and is required for the lysosomal destruction of autophagic vacuoles (6, 7). In cytotoxic T cells and mast cells, LAMP-2 is expressed in the membranes of intracellular granules that contain effector molecules such as perforin, granzymes, eicosanoids, and histamine (8-10). Up-regulated LAMP-2 at the plasma membrane serves as an indicator of cell activation of CD8⁺ T cells, mast cells, monocytes, and platelets (9-12). LAMP-2 is a native ligand for lectins Galectin-1 and Galectin-3 (13-15).

References:

1. Eskelinen, E.-L. *et al.* (2003) *Trends Cell Biol.* **13**:137.
2. Fukuda, M. *et al.* (1988) *J. Biol. Chem.* **263**:18920.
3. Carlsson, S.R. *et al.* (1988) *J. Biol. Chem.* **263**:18911.
4. Konecki, D.S. *et al.* (1995) *Biochem. Biophys. Res. Commun.* **215**:757.
5. Cuervo, A.M. and J.F. Dice (2000) *Traffic* **1**:570.
6. Cuervo, A.M. and J.F. Dice (1996) *Science* **273**:501.
7. Tanaka, Y. *et al.* (1990) *Nature* **406**:902.
8. Peters, P.J. *et al.* (1991) *J. Exp. Med.* **173**:1099.
9. Betts, M.R. *et al.* (2003) *J. Immunol. Meth.* **281**:65.
10. Grutzkau, A. *et al.* (2004) *Cytometry* **61**:62.
11. Kannan, K. *et al.* (1996) *Cell. Immunol.* **171**:10.
12. Silverstein, R.L. and M. Febbraio (1992) *Blood* **80**:1470.
13. Skrinicosky, D.M. *et al.* (1993) *Cancer Res.* **53**:2667.
14. Inohara, H. and Raz, A. (1994) *Biochem. Biophys. Res. Commun.* **201**:1366.
15. Ohannesian D.W. *et al.* (1994) *Cancer Res.* **54**:5992.