

PRODUCT INSERT

MONOCLONAL ANTIBODY TO THE MOUSE CD107a ANTIGEN

Product	Form	Volume	Antibody*	Excitation (nm)	Peak Emission (nm)	Matching Isotype Controls	
RMCD107A01	FITC	1.0 ml	500 µg	488	525	Rat IgG2a FITC	R2a01

**PRODUCT DESCRIPTION**

Rat monoclonal antibody to the mouse CD107a antigen

**Clone:** 1D4B

**Isotype:** Rat IgG<sub>2a</sub>K

**Lot No.:** See label

**Expiration:** See label

**Buffer:** Phosphate buffered saline (PBS)

**Preservatives:** 0.1% *sodium azide*. Sodium azide is an extremely toxic and dangerous compound particularly when combined with acids or metals. Solutions containing sodium azide should be disposed of properly.

**Stabilizer:** Sucrose.

**PRODUCT CHARACTERIZATION**

**Antigen Specificity:** CD107a, also known as lysosomal-associated membrane protein 1 (LAMP-1), is a heavily glycosylated, type I transmembrane protein that constitutes one of the two major sialoglycoproteins on lysosomal membranes that can be used to distinguish lysosomes from other organelles.<sup>1</sup> It is a ligand for galactin, an S-type lectin present in extracellular matrix, through its recognition of acetyllactosamine oligosaccharide chains, and is a ligand for E-selectin-mediated cell adhesion.<sup>2</sup> CD107a is principally expressed in epithelial cells and macrophages in a variety of organs in normal and Beige mutant mice.<sup>3</sup> LAMP-1 may function in protecting the inner surface of the lysosomal membrane by forming a barrier to lysosomal hydrolases.<sup>4</sup>

**Research Applications:**

- Flow cytometry
- Immunoaffinity chromatography<sup>2</sup>
- Immunohistochemistry (frozen sections)
- Immunoprecipitation<sup>1,3</sup>
- Western blotting
- Immunoelectron microscopy<sup>5</sup>

**Note:** Flow cytometric data shown may not necessarily have been generated using the enclosed lot of reagent. For this reason, and due to differences in flow cytometers and cytometer settings, results may vary from those illustrated above. It is suggested that investigators titrate reagents to determine optimal conditions for use in their systems.

**STORAGE & HANDLING**

Store reagents at 2-8°C. Light exposure should be avoided for fluorochrome-conjugated reagents. Use dim light during handling, incubation with cells and prior to analysis. It is recommended that cells be analyzed within 18 hours of staining. If the reagent is being diluted, it is recommended that only the quantity to be used within one week be diluted.

**PRODUCT QUALITY CONTROL**

To ensure lot-to-lot consistency, each batch of monoclonal antibody is tested by flow cytometry to conform to characteristics of a standard reference reagent. From this testing it is recommended that between 0.1 and 0.2 µg of antibody be used per 1 x 10<sup>6</sup> cells in a 100 µl staining volume. Because conditions may vary, it is recommended that each investigator determine the optimal amount of antibody to be used for each application.

\* The amount of antibody is determined by measuring the optical density using a spectrophotometer. The antibody titer is verified by immunofluorescent staining and flow cytometric analysis.

**REFERENCES:**

1. Chen, J.W., W. Pan, M.P. d'Souza and J.T. August. 1985. *Arch. Biochem. Biophys.* 239:574.
2. Arterburn, L.M., B.J. Earles, and J.T. August. 1990. *J. Biol. Chem.* 265:7419.
3. Chen, J.W., G.L. Chen, M.P. d'Souza, T.L. Murphy, and J.T. August. 1986. *Biochem. Soc. Symp.* 51:97.
4. Fukuda, M. 1991. *J. Biol. Chem.* 266:21327.
5. Rohrer, J., A. Schweizer, D. Russell, and S. Kornfeld. 1996. *J. Cell. Biol.* 132:565.

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