CD107a (LAMP-1) antibodies, human

For research use only

One test corresponds to labeling of up to 10 cells in a total volume of 100 µL

Product	Content	Order no.
CD107a (LAMP-1)-Biotin	for 30 tests	130-111-697
CD107a (LAMP-1)-FITC	for 30 tests	130-111-698
CD107a (LAMP-1)-FITC	for 100 tests	130-111-620
CD107a (LAMP-1)-PE	for 30 tests	130-111-699
CD107a (LAMP-1)-PE	for 100 tests	130-111-621
CD107a (LAMP-1)-APC	for 30 tests	130-112-000
CD107a (LAMP-1)-APC	for 100 tests	130-111-847
CD107a (LAMP-1)-VioBlue	for 30 tests	130-111-706
CD107a (LAMP-1)-VioBlue	for 100 tests	130-111-628
CD107a (LAMP-1)-VioGreen	for 30 tests	130-111-707
CD107a (LAMP-1)-VioGreen	for 100 tests	130-111-629
CD107a (LAMP-1)-PE-Vio615	for 30 tests	130-111-708
CD107a (LAMP-1)-PE-Vio615	for 100 tests	130-111-630
CD107a (LAMP-1)-PE-Vio770	for 30 tests	130-111-700
CD107a (LAMP-1)-PE-Vio770	for 100 tests	130-111-622
CD107a (LAMP-1)-APC-Vio770	for 30 tests	130-111-701
CD107a (LAMP-1)-APC-Vio770	for 100 tests	130-111-623
CD107a (LAMP-1)-PerCP-Vio700	for 30 tests	130-111-702
CD107a (LAMP-1)-PerCP-Vio700	for 100 tests	130-111-624
CD107a (LAMP-1)-VioBright 515	for 30 tests	130-111-703
CD107a (LAMP-1)-VioBright 515	for 100 tests	130-111-625
CD107a (LAMP-1)-Vio667	for 30 tests	130-111-704
CD107a (LAMP-1)-Vio667	for 100 tests	130-111-626
CD107a (LAMP-1)-Biotin	for 100 tests	130-111-619

Warnings

Reagents contain sodium azide. Under acidic conditions sodium azide yields hydrazoic acid, which is extremely toxic. Azide compounds should be diluted with running water before discarding. These precautions are recommended to avoid deposits in plumbing where explosive conditions may develop.

Technical data and background information

Antigen CD107a (LAMP-1)

Clone	REA792
Isotype	recombinant human IgG1
Isotype control	REA Control (I) antibodies
Alternative names of antigen	LAMP-1, LAMPA, LGP120, LAMP1
Entrez Gene ID	3916
Molecular mass of antigen [kDa]	42
Cross-reactivity	rhesus monkey (*Macaca mulatta*), pigtail monkey (*Macaca nemestrina*), african green monkey (*Chlorocebus aethiops*), baboon, chimpanzee (*Pan troglodytes*)
Distribution of antigen	dendritic cells, endothelial cells, epithelial cells, granulocytes, macrophages, neutrophils, platelets, T cells
Product format	Reagents are supplied in buffer containing stabilizer and 0.05% sodium azide.
Fixation	The antibody is suited for staining of formaldehyde-fixed cells.
Storage	Store protected from light at 2–8 °C. Do not freeze.

Clone REA792 recognizes the CD107a antigen, also known as lysosome-associated membrane protein 1 (LAMP-1), a 110–140 kDa type I membrane glycoprotein. It is a widely expressed intracellular protein, located in the lysosomal/endosomal membrane. CD107a transiently located on the plasma membrane can be used as a marker for $CD8^+$ T cell degranulation following stimulation. It is also expressed to a lower extent on activated NK cells. Additional information: Clone REA792 displays negligible binding to Fc receptors.

Reagent requirements

- Buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, 0.5% bovine serum albumin (BSA), and 2 mM EDTA by diluting MACS® BSA Stock Solution (# 130-091-376) 1:20 with autoMACS® Rinsing Solution (# 130-091-222). Keep buffer cold (2−8 °C).
  Note: EDTA can be replaced by other supplements such as anticoagulant citrate dextrose formula-A (ACD-A) or citrate phosphate dextrose (CPD). Buffers or media containing Ca^{2+} or Mg^{2+} are not recommended for use.
- Inside Stain Kit (# 130-090-477) for the fixation and permeabilization of cells containing Inside Fix and Inside Perm.
- (Optional) Fluorochrome-conjugated anti-biotin antibodies, e.g., Anti-Biotin-PE (# 130-090-756) as secondary antibody reagent in combination with biotinylated antibodies.
- (Optional) Fixation and Dead Cell Discrimination Kit (# 130-091-163) for cell fixation and flow cytometric exclusion of dead cells.

Protocol for intracellular staining of cells

- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:50 for up to 10^6 cells/100 µL.
- Volumes given below are for up to 10^6 nucleated cells. When working with higher cell numbers, scale up all reagent volumes and total volumes accordingly.

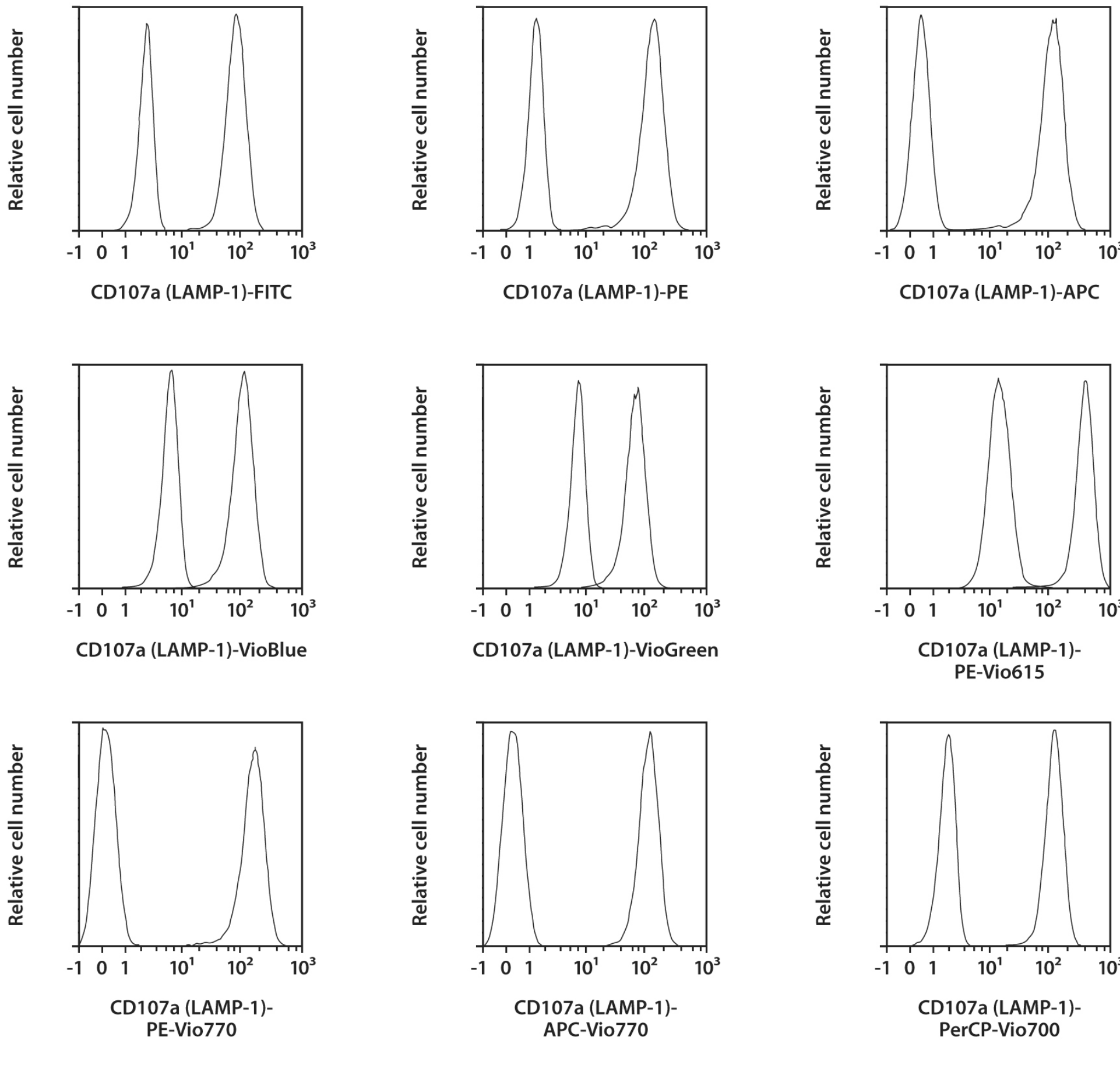
1. Wash up to 10^6 cells by adding 1–2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
2. (Optional) Stain cell surface antigens that are sensitive to fixation with appropriate antibodies according to the manufacturer's recommendations. Then wash cells by adding 1–2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to 10^6 cells in 250 µL of buffer.
4. Add 250 µL of Inside Fix (Inside Stain Kit). Mix well and incubate for 20 minutes in the dark at room temperature.
5. Centrifuge at 300×g for 5 minutes. Aspirate supernatant carefully.
6. Wash cells by adding 1 mL of buffer and centrifuge at 300×g for 5 minutes. Aspirate supernatant carefully.
   Note: Fixed cells may be stored in azide-containing buffer at 2–8 °C for up to 1 week.
7. (Optional) Stain cell surface antigens that are sensitive to permeabilization with appropriate antibodies according to the manufacturer's recommendations. Then wash cells by adding 1–2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.

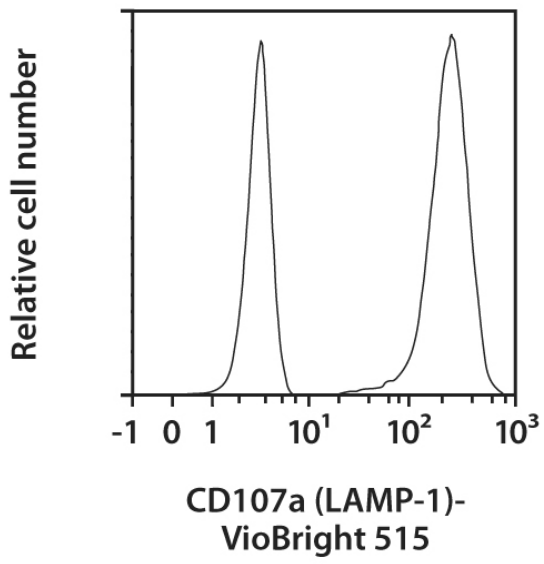
8. Wash cells by adding 1 mL of Inside Perm (Inside Stain Kit) and centrifuge at 300×g for 5 minutes. Aspirate supernatant carefully.
9. Resuspend cells in 98 µL of Inside Perm. Add 2 µL of the antibody.
   Note: For staining with several antibodies in this step, reduce the volume of Inside Perm accordingly. For efficient permeabilization, the volume of Inside Perm should be at least 30% of the overall staining volume.
10. Mix well and incubate for 10 minutes in the dark at room temperature.
11. Wash cells by adding 1 mL of Inside Perm and centrifuge at 300×g for 5 minutes. Aspirate supernatant carefully.
12. (Optional) If biotinylated antibody was used, resuspend the cell pellet in Inside Perm and stain with fluorochrome-conjugated anti-biotin antibody according to the manufacturer's recommendations.
13. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy. Store cells at 2–8 °C in the dark until analysis. Mix well before flow cytometric acquisition.

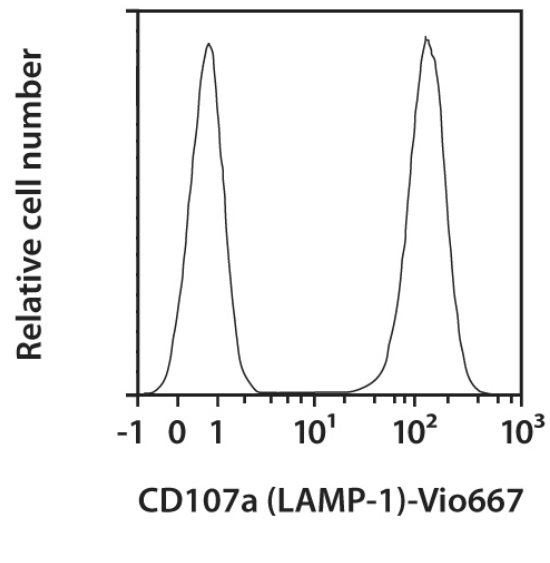
- Note: Samples may be stored at 2–8 °C in the dark for up to 24 hours.
- Note: Do not use propidium iodide (PI) or 7-AAD staining.

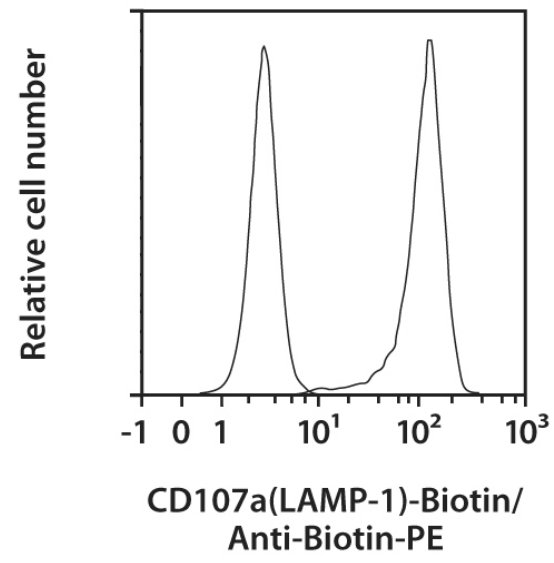
Examples of immunofluorescent staining

Jurkat cells were fixed, permeabilized, and stained with CD107a (LAMP-1) antibodies or with the corresponding REA Control (I) antibodies (left peak). Control antibodies are unstained in case of VioGreen™ and VioBright 515 fluorochromes. Flow cytometry was performed using the MACSQuant®Analyzer. The Tandem Signal Enhancer has been used to increase binding specificity of tandem-dye–conjugated antibodies. Cell debris were excluded from the analysis based on scatter signals.









Warranty

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