CD207 (Langerin) antibodies, human

For research use only

One test corresponds to labeling of up to 10^7 cells in a total volume of 100 µL.

Product	Content	Order no.
CD207 (Langerin)-FITC	for 100 tests	130-098-349
CD207 (Langerin)-PE	for 100 tests	130-098-355
CD207 (Langerin)-APC	for 100 tests	130-098-364
CD207 (Langerin)-VioBlue	for 30 tests	130-106-147
CD207 (Langerin)-VioBlue	for 100 tests	130-106-096
CD207 (Langerin)-PE-Vio770	for 30 tests	130-100-583
CD207 (Langerin)-PE-Vio770	for 100 tests	130-100-586
CD207 (Langerin)-APC-Vio770	for 30 tests	130-100-581
CD207 (Langerin)-APC-Vio770	for 100 tests	130-100-578
CD207 (Langerin)-Biotin	for 100 tests	130-098-344

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	CD207 (Langerin)
Clone	MB22-9F5
Isotype	mouse IgG1
Isotype control	Mouse IgG1 – isotype control antibodies
Alternative names of antigen	CLEC4K, Langerin
Molecular mass of antigen [kDa]	37
Distribution of antigen	dendritic cells, Langerhans cells
Product format	Antibodies 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.

Langerin (CD207 antigen), a 40 kDa, glycosylated type II transmembrane C-type lectin receptor, is the standard marker for human and murine Langerhans cells (LCs).
LCs are a subset of dendritic cells (DCs) cells that reside in epithelia; the best studied example of these antigen-presenting cells are LCs of the epidermis.
CD207 is directly involved in antigen capture as well as endocytosis and induces the formation of typical Birbeck granules in immature DCs.

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.
- (Optional) FcR Blocking Reagent, human (# 130-059-901) to avoid Fc receptor–mediated antibody labeling.
- (Optional) Fluorochrome-conjugated anti-biotin antibodies, e.g., Anti-Biotin-PE (# 130-090-756) as secondary antibody reagent in combination with biotinylated antibodies.
- (Optional) Propidium Iodide Solution (# 130-093-233) for flow cytometric exclusion of dead cells without fixation.
- (Optional) Fixation and Dead Cell Discrimination Kit (# 130-091-163) for cell fixation and flow cytometric exclusion of dead cells.

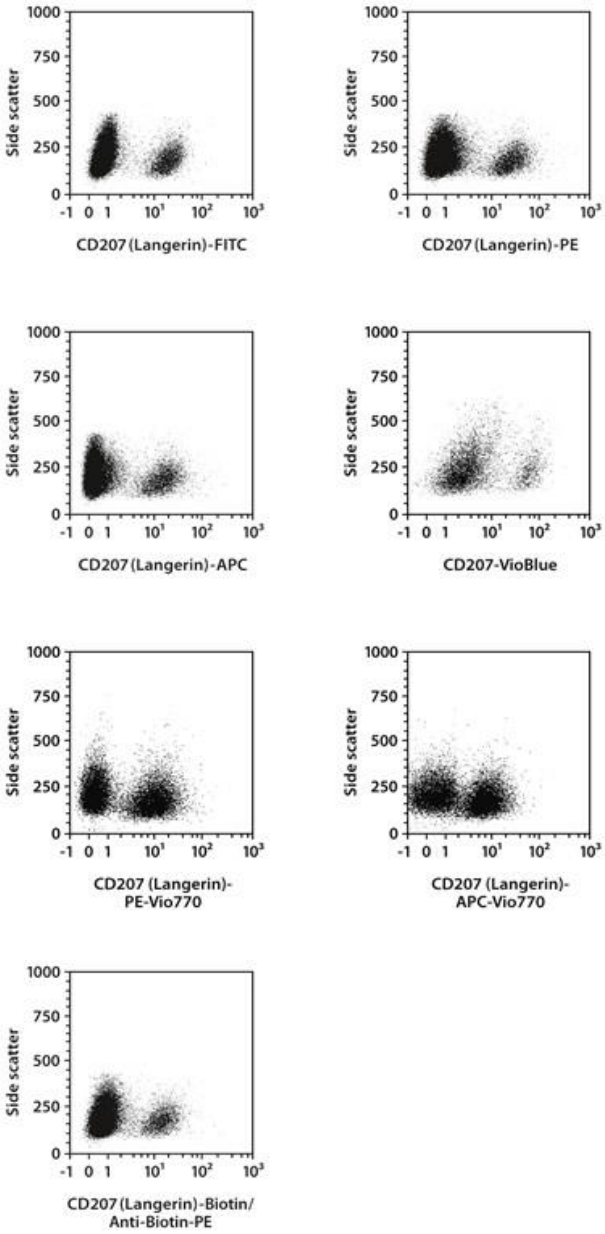
Protocol for cell surface staining

- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:11 for up to 10^7 cells/100 µL of buffer.
- Volumes given below are for up to 10^7 nucleated cells. When working with fewer than 10^7 cells, use the same volumes as indicated. When working with higher cell numbers, scale up all reagent volumes and total volumes accordingly (e.g. for 2×10^7 nucleated cells, use twice the volume of all indicated reagent volumes and total volumes).

1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to 10^7 nucleated cells per 100 µL of buffer.
4. Add 10 µL of the antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2−8 °C).
   Note: Higher temperatures and/or longer incubation times may lead to non-specific cell labeling. Working on ice requires increased incubation times.
6. Wash cells by adding 1−2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
7. (Optional) If biotinylated antibody was used, resuspend the cell pellet in 100 µL of buffer, add 10 µL of fluorochrome-conjugated anti-biotin antibody, and continue as described in steps 5 and 6.
8. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy.

Examples of immunofluorescent staining

A single-cell suspension of human epidermis was stained with CD207 (Langerin) antibodies and analyzed by flow cytometry using the MACSQuant® Analyzer. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide or 4',6-diamidino-2-phenylindole (DAPI) fluorescence, as in the case of tandem conjugates.
Flow cytometric data of FITC, PE, APC, and Biotin were kindly provided by Prof. Dr. Nikolaus Romani, Department of Dermatology & Venereology, Innsbruck Medical University, Anichstrasse 35, A-6020 Innsbruck, Austria.



References

1. **Stoitzner, P. *et al.*** (2010) Isolation of skin dendritic cells from mouse and man Methods Mol. Biol. 595: 235–248.
2. **Geissmann, F. *et al.*** (1998) Transforming growth factor β1, in the presence of granulocyte/macrophage colony-stimulating factor and interleukin 4, induces differentiation of human peripheral blood monocytes into dendritic Langerhans cells J. Exp. Med. 187(6): 961–996.
3. **Rozis, G. *et al.*** (2008) Human Langerhans cells and dermal-type dendritic cells generated from CD34 stem cells express different toll-like receptors and secrete different cytokines in response to toll-like receptor ligands Immunology 124(3): 329–338.
4. **Valladeau, J. *et al.*** (2000) Langerin, a novel C-type lectin specific to Langerhans cells, is an endocytic receptor that induces the formation of Birbeck granules Immunity 12(1): 71–81.
5. **Romani, N. *et al.*** (2010) Langerhans cells and more: langerin-expressing dendritic cell subsets in the skin Immunol. Rev. 234(1): 120–141.

Warranty

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