CD13 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.
CD13-FITC	for 30 tests	130-103-732
CD13-FITC	for 100 tests	130-103-667
CD13-PE	for 30 tests	130-103-733
CD13-PE	for 100 tests	130-103-668
CD13-APC	for 30 tests	130-103-734
CD13-APC	for 100 tests	130-103-669
CD13-PE-Vio615	for 30 tests	130-107-202
CD13-PE-Vio615	for 100 tests	130-107-149
CD13-PE-Vio770	for 30 tests	130-103-735
CD13-PE-Vio770	for 100 tests	130-103-670
CD13-APC-Vio770	for 30 tests	130-103-736
CD13-APC-Vio770	for 100 tests	130-103-671
CD13-Biotin	for 30 tests	130-103-768
CD13-Biotin	for 100 tests	130-103-757

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	CD13
Clone	REA263
Isotype	recombinant human IgG1
Isotype control	REA Control (S) antibodies
Alternative names of antigen	ANPEP, APN, gp150, LAP1, p150, PEPN
Molecular mass of antigen [kDa]	109
Distribution of antigen	granulocytes, endothelial cells, epithelial cells
Product format	Antibodies are supplied in buffer containing stabilizer and 0.05% sodium azide.
Fixation	Cells should be stained prior to fixation, if formaldehyde is used as a fixative.
Storage	Store protected from light at 2–8 °C. Do not freeze.

Clone REA263 recognizes the CD13 antigen, a 150–170 kDa type II transmembrane glycoprotein, which is also known as aminopeptidase N or gp150. CD13 is expressed on granulocytes, myeloid progenitors, endothelial cells, epithelial cells, and subset of granular lymphoid cells. It is also broadly expressed in other tissues such as kidney proximal tubules, intestine, and placenta. CD13 is an enzyme that is used as a biomarker to detect damage to the kidneys, and that may be used to help diagnose certain kidney disorders. It also serves as a receptor for one strain of human coronavirus that is an important cause of upper respiratory tract infections. Defects in CD13 appear to be a cause of various types of leukemia or lymphoma.
Additional information: Clone REA263 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.
- (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.

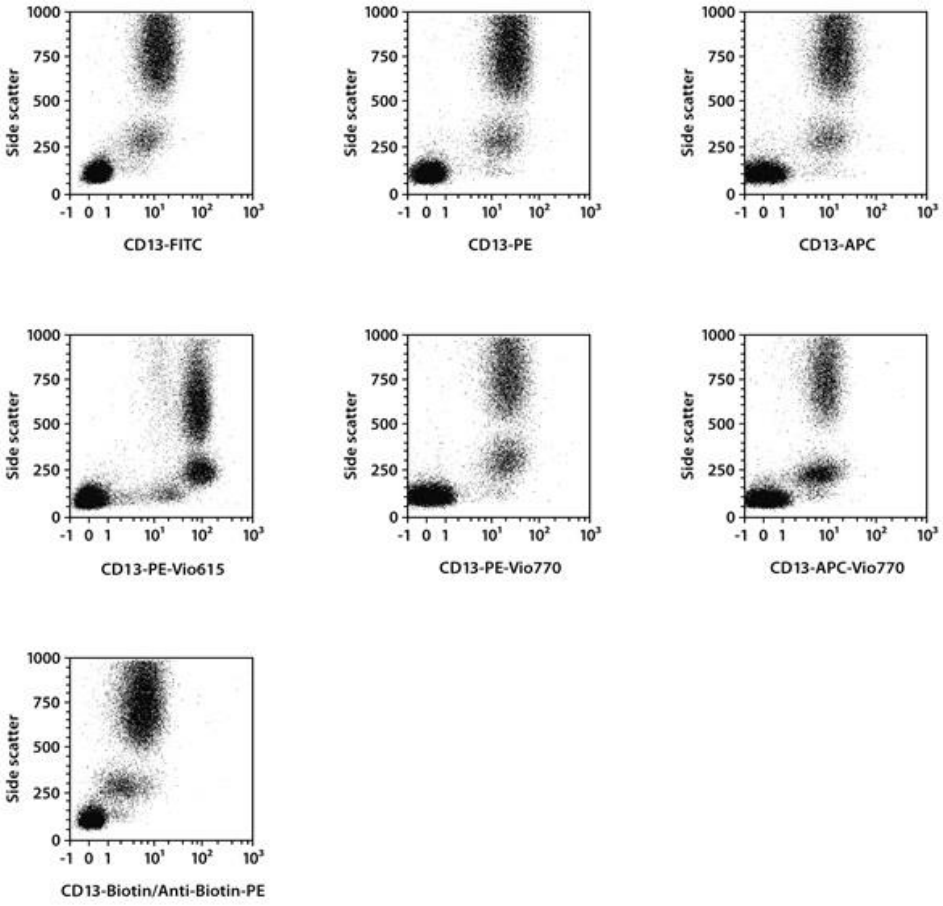
Protocol for cell surface staining

- 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

Human peripheral blood cells after erythrocyte lysis were stained with CD13 antibodies and analyzed by flow cytometry using the MACSQuant® Analyzer. The Tandem Signal Enhancer has been used to increase binding specificity of tandem-dye–conjugated antibodies. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence or 4',6-diamidino-2-phenylindole (DAPI) fluorescence, as in the case of tandem conjugates.



References

1. **Look, A. T. *et al.*** (1989) Human myeloid plasma membrane glycoprotein CD13 (gp150) is identical to aminopeptidase N. J. Clin. Invest. 83(4): 1299–1307.
2. **Favaloro, E. J. *et al.*** (1993) CD13 (GP150; aminopeptidase-N): predominant functional activity in blood is localized to plasma and is not cell-surface associated. Exp. Hematol. 21(13): 1695–1701.
3. **Yeager, C. L. *et al.*** (1992) Human aminopeptidase N is a receptor for human coronavirus 229E. Nature 357(6377): 420–422.

Warranty

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