CD45 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.
CD45-APC	for 100 tests	130-113-114
CD45-FITC	for 30 tests	130-113-679
CD45-FITC	for 100 tests	130-113-117
CD45-VioBright FITC	for 30 tests	130-113-685
CD45-VioBright FITC	for 100 tests	130-113-123
CD45-VioBright FITC	for 500 tests	130-114-567
CD45-PE	for 30 tests	130-113-680
CD45-PE	for 100 tests	130-113-118
CD45-APC	for 30 tests	130-113-676
CD45-VioBlue	for 30 tests	130-113-684
CD45-VioBlue	for 100 tests	130-113-122
CD45-VioGreen	for 30 tests	130-113-686
CD45-VioGreen	for 100 tests	130-113-124
CD45-PerCP	for 30 tests	130-113-682
CD45-PerCP	for 100 tests	130-113-120
CD45-PE-Vio770	for 30 tests	130-113-681
CD45-PE-Vio770	for 100 tests	130-113-119
CD45-APC-Vio770	for 30 tests	130-113-677
CD45-APC-Vio770	for 100 tests	130-113-115
CD45-PerCP-Vio700	for 30 tests	130-113-683
CD45-PerCP-Vio700	for 100 tests	130-113-121
CD45-Biotin	for 30 tests	130-113-678
CD45-Biotin	for 100 tests	130-113-116

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 CD45

Clone 5B1

Isotype	mouse IgG2aκ
Isotype control	Mouse IgG2a – isotype control antibodies
Alternative names of antigen	Ptprc, T200, LCA, LY5, L-CA
Entrez Gene ID	5788
Molecular mass of antigen [kDa]	145
Distribution of antigen	B cells, basophils, dendritic cells, granulocytes, hematopoietic stem cells, Langerhans cells, leukocytes, lymphocytes, macrophages, mast cells, monocytes, plasma cells, T cells, thymocytes
Product format	Reagents 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.

The CD45 antibody recognizes the human CD45 antigen, a tyrosine phosphatase also known as leukocyte common antigen (LCA). The CD45 molecule is required for T and B cell activation and is expressed in at least five isoforms depending on the differentiation status of the cell. The CD45 antibody recognizes a common epitope of all CD45 isoforms.

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.

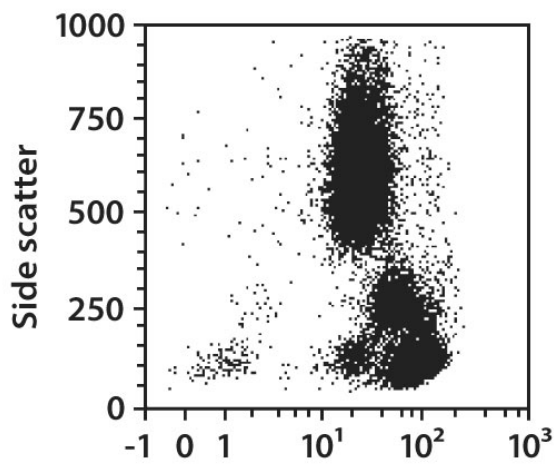
Protocol for cell surface staining

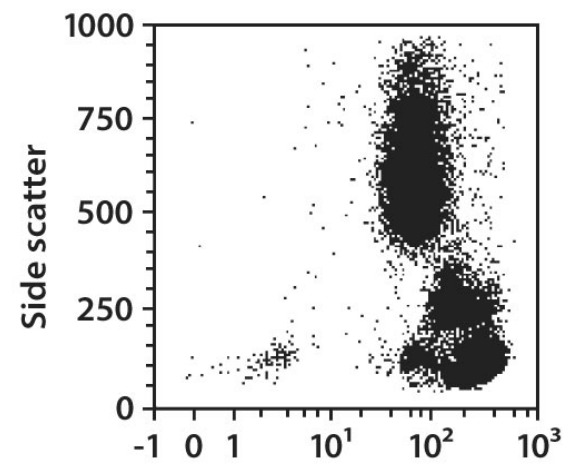
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:50 for up to 10^6 cells/100 µL.
- Volumes given below are for up to 10^6 nucleated cells. When working with fewer than 10^6 cells, use the same volumes as indicated. When working with higher cell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

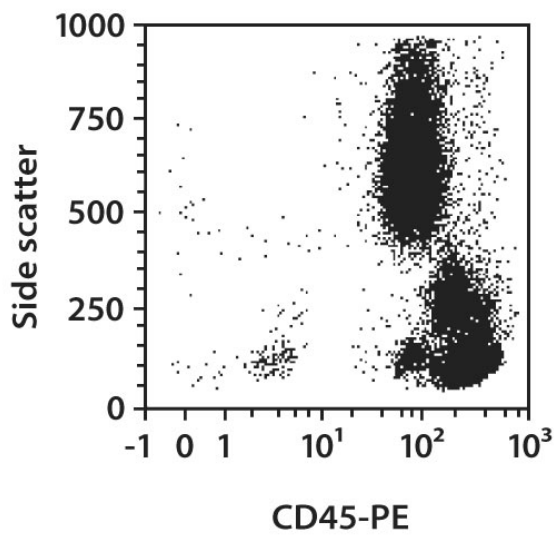
1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to 10^6 nucleated cells per 98 µL of buffer.
4. Add 2 µL of the antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2−8 °C).
   Note: Higher 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 buffer and stain with fluorochrome-conjugated anti-biotin antibody according to the manufacturer's recommendations.
8. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy.

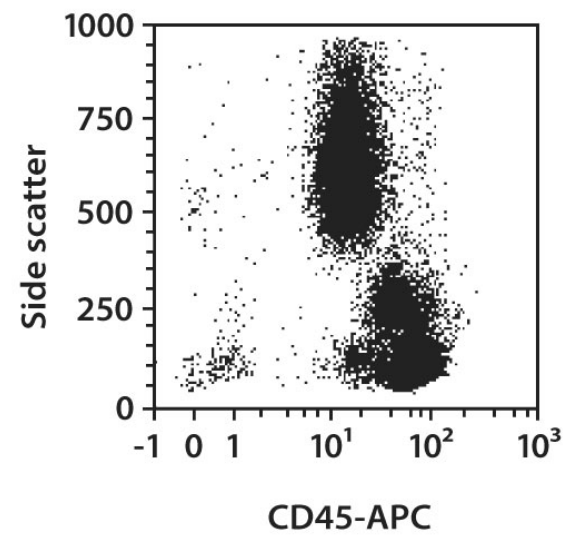
Examples of immunofluorescent staining

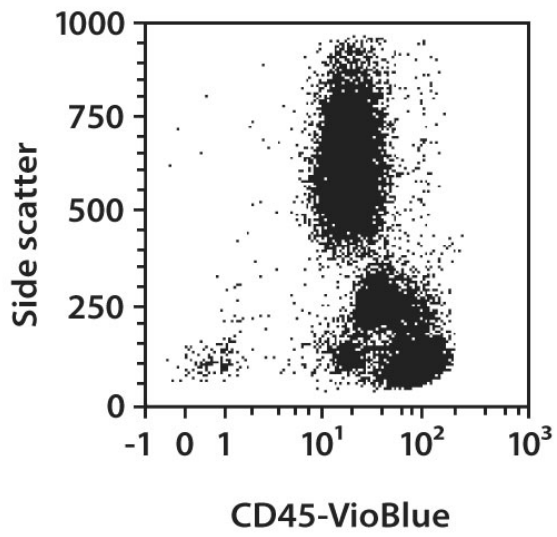
Human white blood cells (WBCs) were stained with CD45 antibodies and analyzed by flow cytometry using the MACSQuant® Analyzer. The Tandem Signal Enhancer has been used to increase binding specificity of tandem-dye–conjugated antibodies. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence or 4',6-diamidino-2-phenylindole (DAPI) fluorescence, as in the case of tandem conjugates.

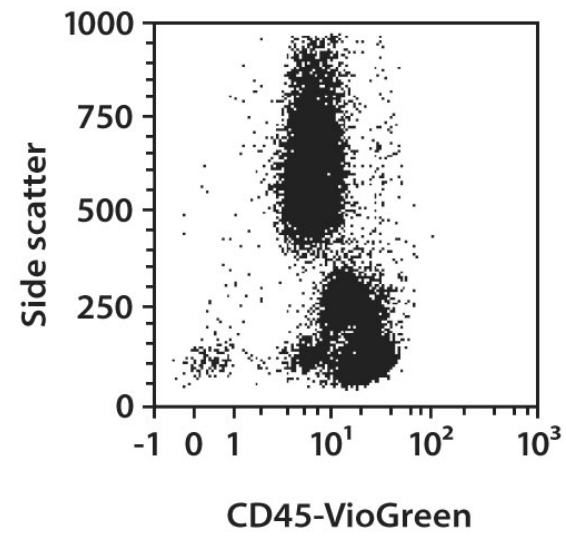


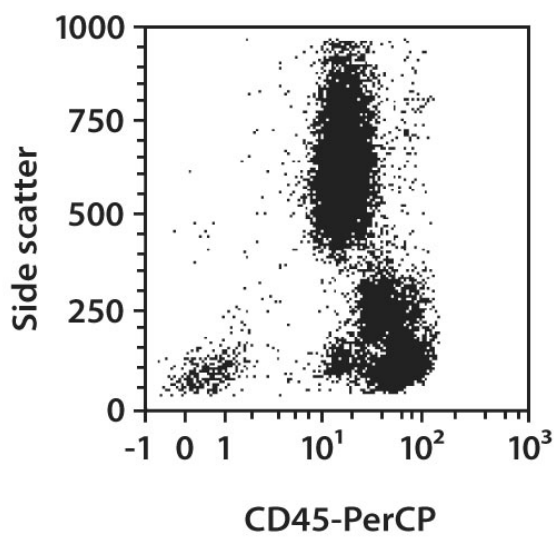


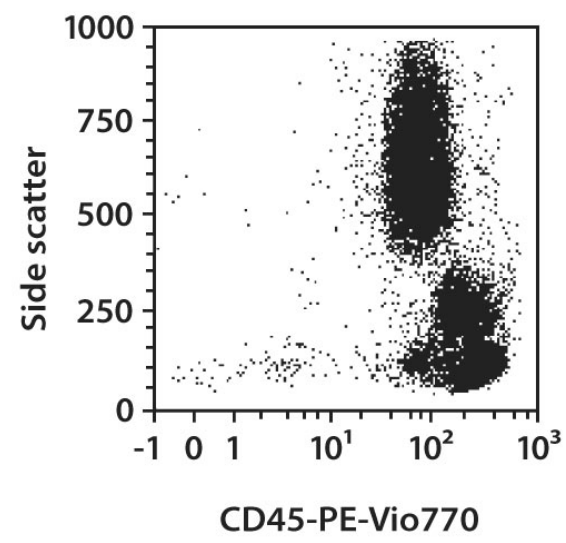


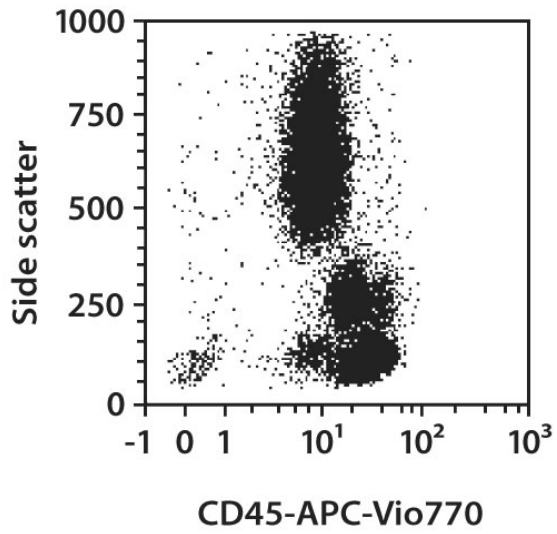


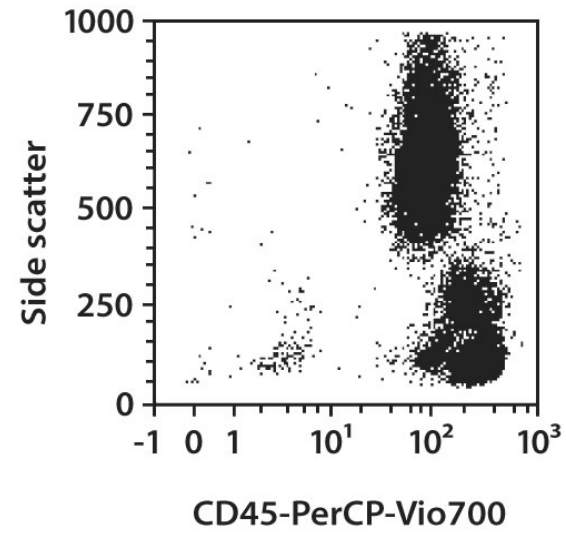


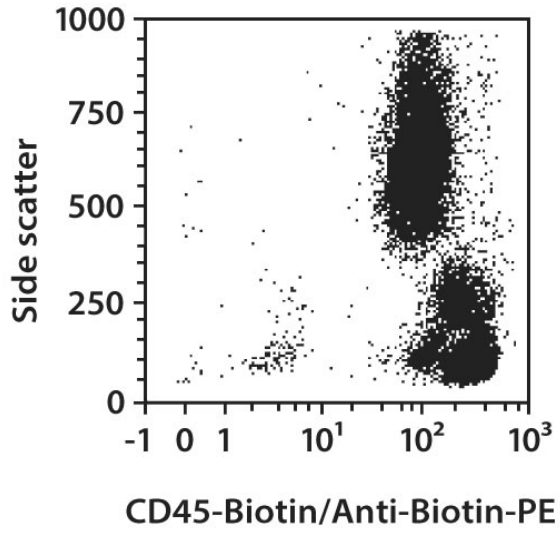












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