Anti-PTK7 (CCK-4) 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.
Anti-PTK7 (CCK-4)-PE	for 30 tests	130-112-866
Anti-PTK7 (CCK-4)-PE	for 100 tests	130-112-677
Anti-PTK7 (CCK-4)-APC	for 30 tests	130-112-867
Anti-PTK7 (CCK-4)-APC	for 100 tests	130-112-678
Anti-PTK7 (CCK-4)-PE-Vio615	for 30 tests	130-112-870
Anti-PTK7 (CCK-4)-PE-Vio615	for 100 tests	130-112-681
Anti-PTK7 (CCK-4)-PE-Vio770	for 30 tests	130-112-868
Anti-PTK7 (CCK-4)-PE-Vio770	for 100 tests	130-112-679
Anti-PTK7 (CCK-4)-Biotin	for 30 tests	130-112-864
Anti-PTK7 (CCK-4)-Biotin	for 100 tests	130-112-675

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	PTK7 (CCK-4)
Clone	REA836
Isotype	recombinant human IgG1
Isotype control	REA Control (S) antibodies
Alternative names of antigen	CCK-4, CCK4
Entrez Gene ID	5754
Molecular mass of antigen [kDa]	115
Distribution of antigen	bone marrow, dendritic cells
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.

Clone REA836 recognizes human protein tyrosine kinase-7 (PTK7). PTK7, also known as colon carcinoma kinase-4 (CCK-4), is a receptor protein tyrosine kinase (RPTK)–like molecule that contains a catalytically inactive tyrosine kinase domain. PTK7 was identified to be important for neural development as a regulator of planar cell polarity, being required for convergent extension movement and neural tube closure. Using the Anti-PTK7 (CCK-4) antibody, PTK7 expression was recently analyzed on blood and bone marrow cells. PTK7 was shown to be expressed on plasmacytoid dendritic cells, CD141 (BDCA-3)^{high} type-2 myeloid dendritic cells, and CD34^{+} hematopoietic progenitor cells (HPCs). PTK7 was detected on early (CD34^{+}CD133^{+}) and late (CD34^{+}CD133^{-}) HPCs. In tonsils, PTK7 was also found on some T cells.

Additional information: Clone REA836 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.

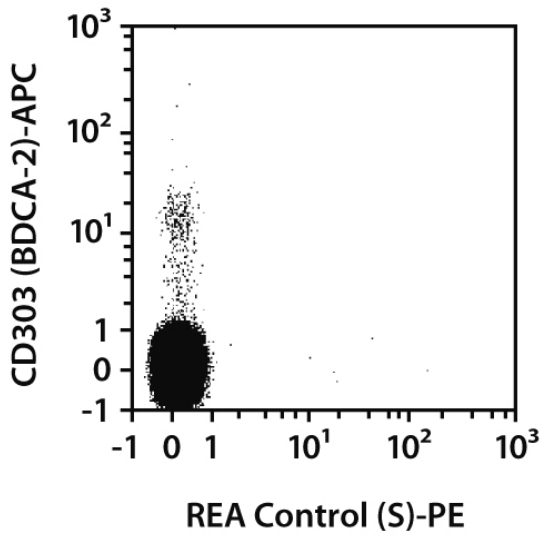
Protocol for cell surface staining

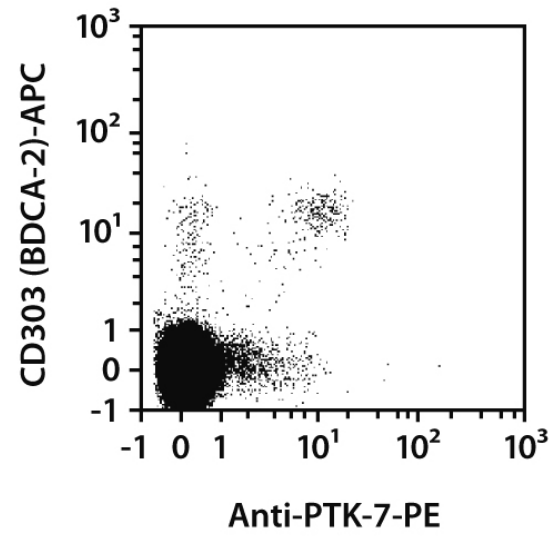
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:50 for up to 10^6 cells/100 µL.
- Volumes given below are for up to 10^6 nucleated cells. When working with fewer than 10^6 cells, use the same volumes as indicated. When working with higher cell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

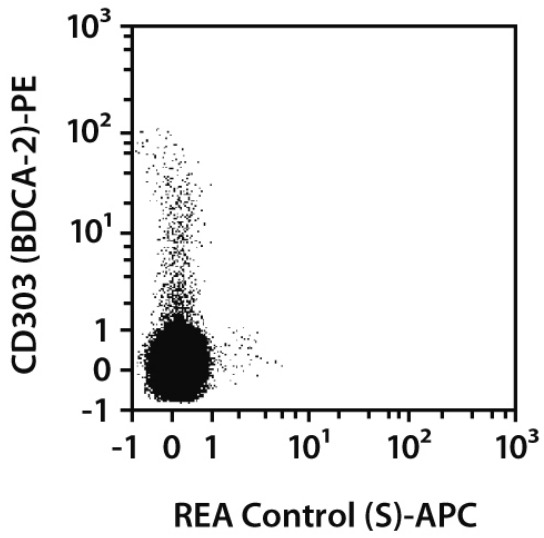
1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to 10^6 nucleated cells per 98 µL of buffer.
4. Add 2 µL of the antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2−8 °C).
   Note: Higher 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.

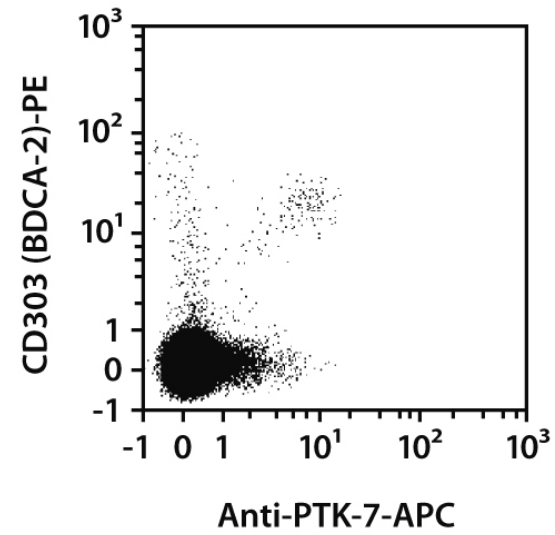
Examples of immunofluorescent staining

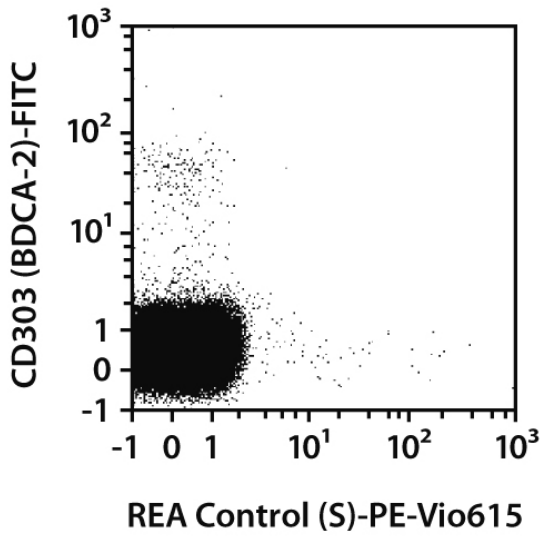
Human peripheral blood mononuclear cells (PBMCs) were stained with Anti-PTK7 (CCK-4) antibodies or with the corresponding REA Control (S) antibodies (left image) as well as with CD303 (BDCA-2) antibodies. Flow cytometry was performed using the MACSQuant®Analyzer. The Tandem Signal Enhancer has been used to increase binding specificity of tandem-dye–conjugated antibodies. Cell debris 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.

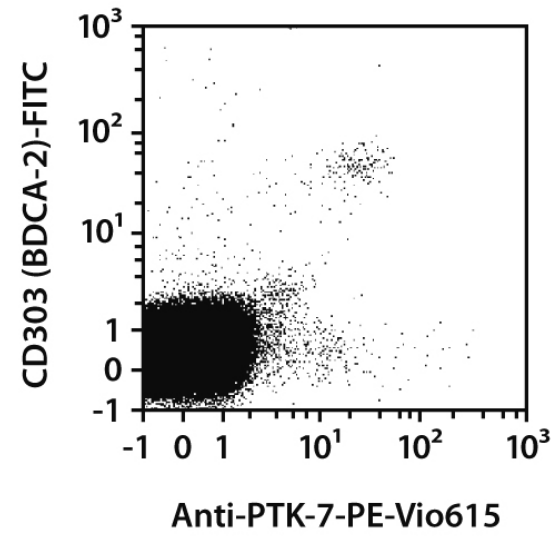


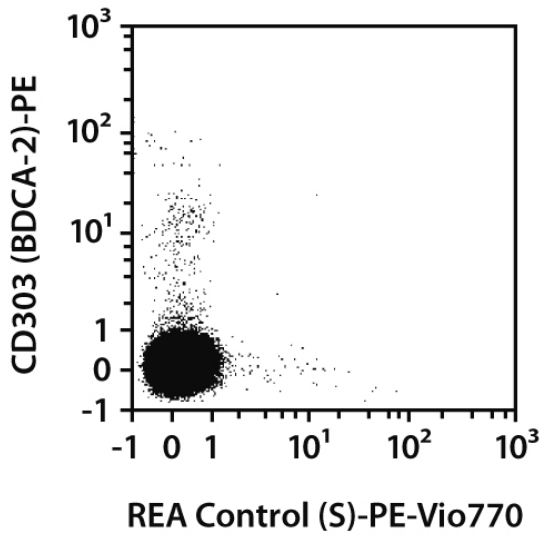


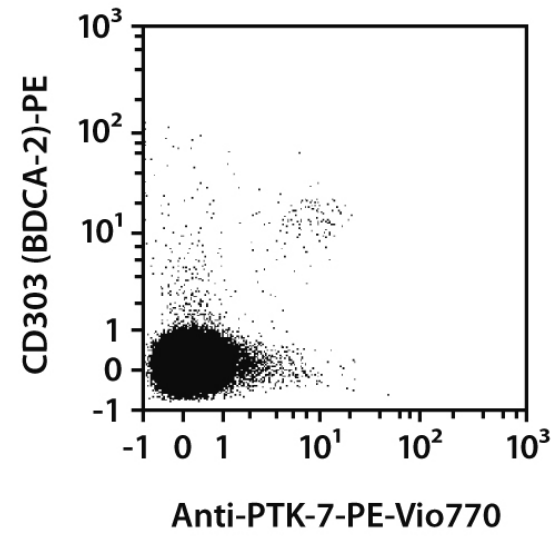


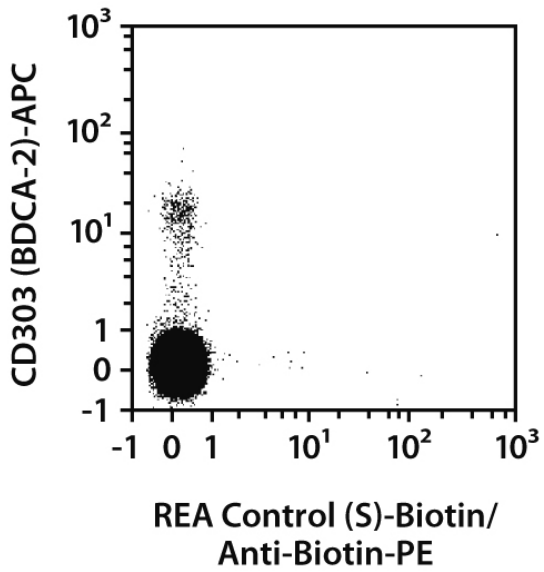


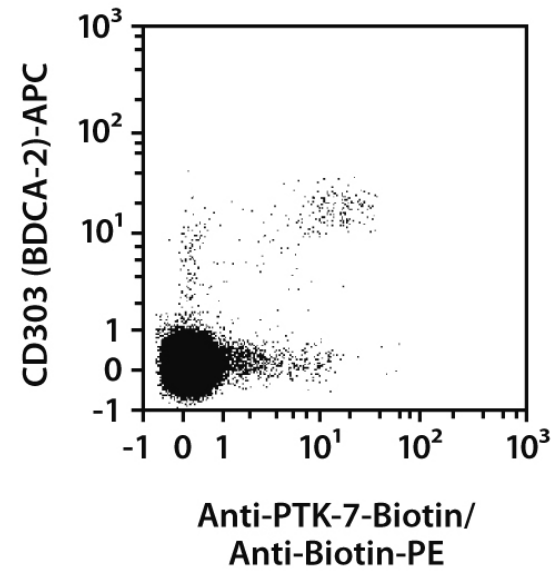












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