# CD2 antibodies, human

## For research use only

6

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

| Product | Content | Order no. |
|---|---|---|
| CD2-FITC | for 100 tests | 130-116-148 |
| CD2-FITC | for 30 tests | 130-116-251 |
| CD2-PE | for 30 tests | 130-116-252 |
| CD2-PE | for 100 tests | 130-116-149 |
| CD2-APC | for 30 tests | 130-116-253 |
| CD2-APC | for 100 tests | 130-116-150 |
| CD2-PE-Vio615 | for 30 tests | 130-116-260 |
| CD2-PE-Vio615 | for 100 tests | 130-116-157 |
| CD2-PE-Vio770 | for 30 tests | 130-116-254 |
| CD2-PE-Vio770 | for 100 tests | 130-116-151 |
| CD2-APC-Vio770 | for 30 tests | 130-116-255 |
| CD2-APC-Vio770 | for 100 tests | 130-116-152 |

## 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

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| **Antigen** | CD2 |
| **Clone** | REA972 |
| **Isotype** | recombinant human IgG1 |
| **Isotype control** | REA Control (S) antibodies |
| **Alternative names of antigen** | LFA-2, SRBC-R, T11, SRBC |
| **Entrez Gene ID** | 914 |
| **Molecular mass of antigen [kDa]** | 37 |
| **Cross-reactivity** | rhesus monkey ( *Macaca mulatta* ), cynomolgus monkey ( *Macaca fascicularis* ), chimpanzee ( *Pan troglodytes* ), squirrel monkey (*Saimiri sciureus*) |
| **Distribution of antigen** | B cells, lymphocytes, macrophages, mast cells, NK 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. |

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| **Storage** | Store protected from light at 2–8 °C. Do not freeze. |

Clone REA972 recognizes the human CD2 antigen, a 50 kDa single-chain transmembrane glycoprotein also known as LFA-2 or receptor for sheep erythrocytes. CD2 functions as a co-stimulatory molecule on T and NK cells and is a receptor for other adhesion molecules, such as lymphocyte function-associated antigen-3 (LFA-3/CD58). It belongs to the Ig superfamily and is involved in cell signaling and lymphocyte adhesion. The CD2 antibody reacts with 80–90 % of peripheral blood lymphocytes and more than 95% of thymocytes and recognizes all T cells and a subset of NK cells. Additional information: Clone REA972 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.

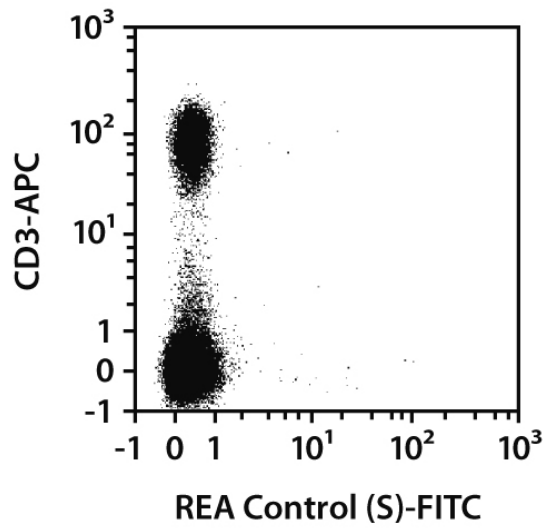
## Protocol for cell surface staining

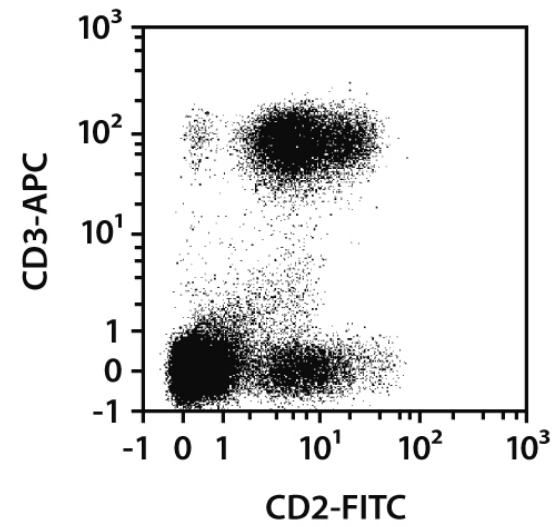
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:50 for up to $10^6$ cells/100 µL.
- Volumes given below are for up to $10^6$ nucleated cells. When working with fewer than $10^6$ cells, use the same volumes as indicated. When working with higher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

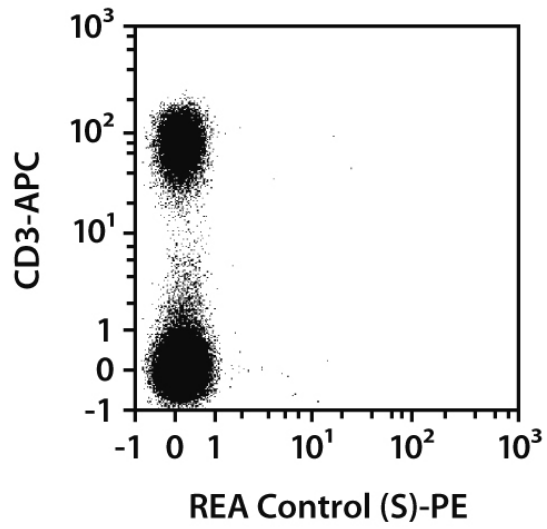
1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to $10^6$ nucleated cells per 98 µL of buffer.
4. Add 2 µL of the antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2−8 °C).
   Note: Higher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

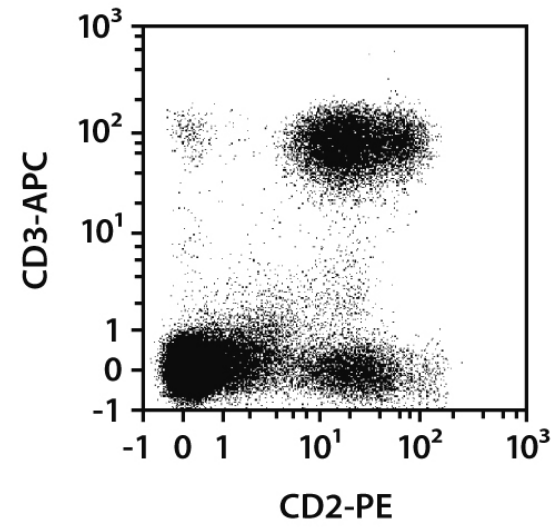
## Examples of immunofluorescent staining

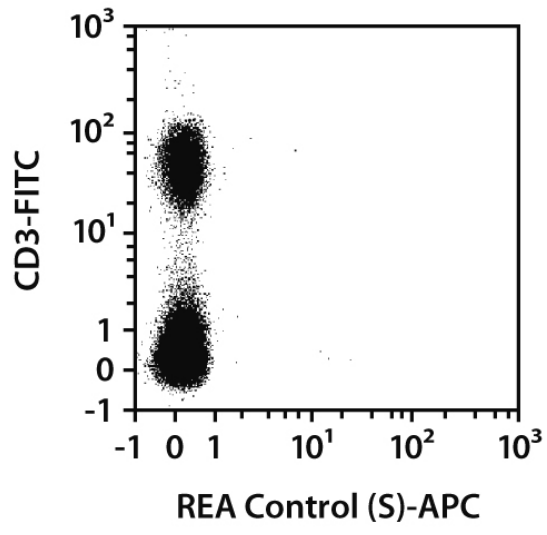
Human peripheral blood mononuclear cells (PBMCs) were stained with CD2 antibodies or with the corresponding REA Control (S) antibodies (left images) as well as with CD3 antibodies and analyzed by flow cytometry using the MACSQuant® Analyzer. The Tandem Signal Enhancer has been used to increase binding 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.

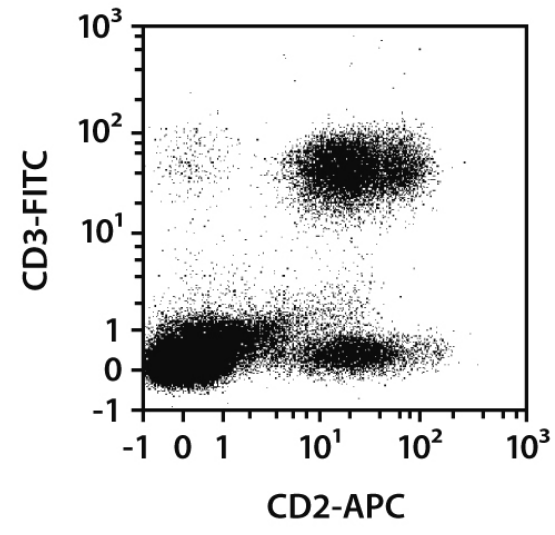

CD3-APC
REA Control (S)-FITC

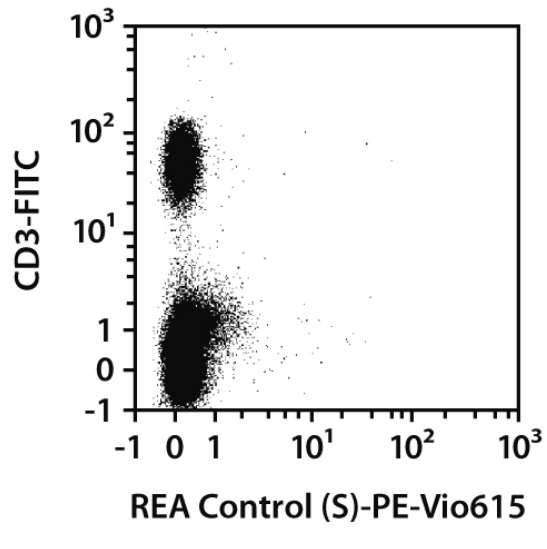

CD3-APC
CD2-FITC

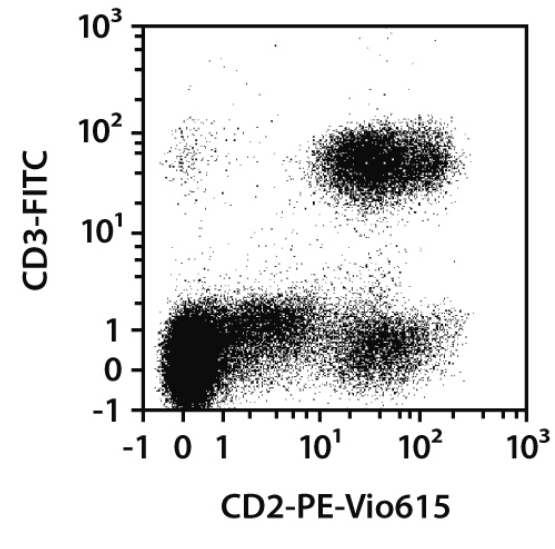

CD3-APC
REA Control (S)-PE


CD3-APC
CD2-PE


CD3-FITC
REA Control (S)-APC


CD3-FITC
CD2-APC


CD3-FITC
REA Control (S)-PE-Vio615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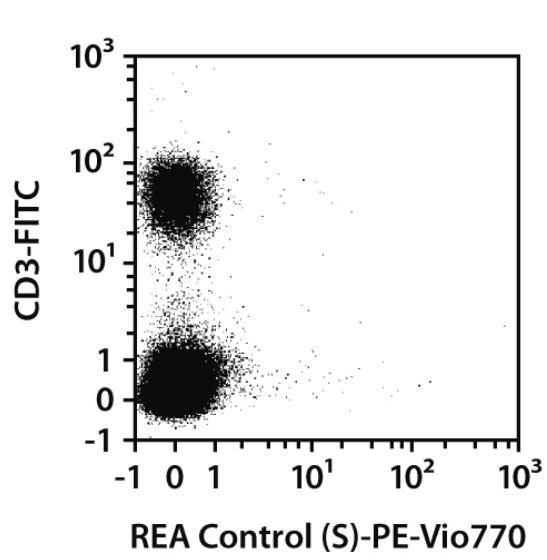
CD2-PE-Vio615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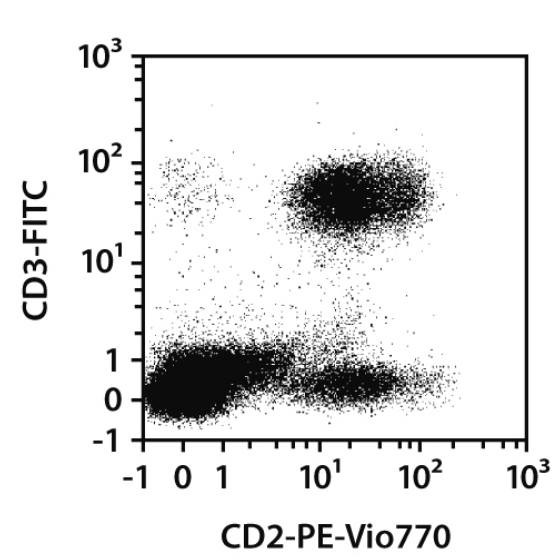
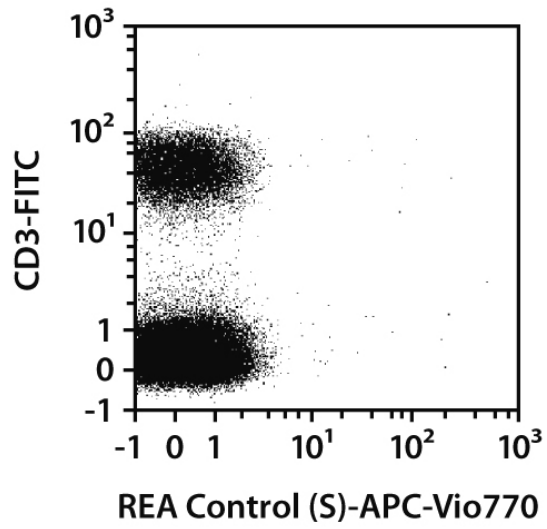
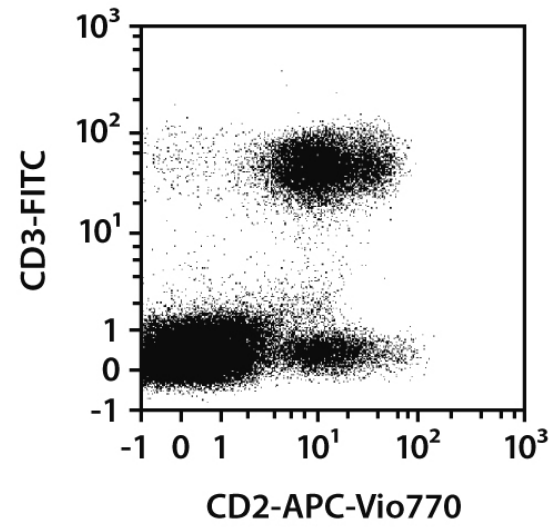
REA Control (S)-PE-Vio770


CD3-FITC
CD2-PE-Vio770

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