CD38 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.
CD38-VioBlue	for 30 tests	130-110-451
CD38-VioBright FITC	for 30 tests	130-110-347
CD38-VioBright FITC	for 100 tests	130-110-246
CD38-PE	for 30 tests	130-110-344
CD38-PE	for 100 tests	130-110-243
CD38-APC	for 30 tests	130-110-345
CD38-APC	for 100 tests	130-110-244
CD38-VioBlue	for 100 tests	130-110-445
CD38-PE-Vio770	for 30 tests	130-110-346
CD38-PE-Vio770	for 100 tests	130-110-245
CD38-Biotin	for 30 tests	130-110-343
CD38-Biotin	for 100 tests	130-110-242

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	CD38
Clone	REA671
Isotype	recombinant human IgG1
Isotype control	REA Control (S) antibodies
Alternative names of antigen	T10, ADPRC 1
Entrez Gene ID	952
Molecular mass of antigen [kDa]	34
Distribution of antigen	B cells, basophils, bone marrow, brain, kidney, leukocytes, lymphocytes, monocytes, myeloid cells, NK cells, ovary, pancreatic carcinoma cells, placenta, plasma cells, red blood cells, skeletal muscle, 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.

Clone REA671 recognizes the human CD38 antigen, a single-chain type II transmembrane glycoprotein with enzymatic activity. It is present on the majority of hematopoietic cells, prevalent during early differentiation and activation processes. Terminally differentiated B cells (plasma cells) express CD38 brightly. Furthermore, CD38 is constitutively expressed in several tissues, for example, brain, muscle, and kidney. CD38, a disease marker for human leukemias and myelomas, plays a role in the pathogenesis and outcome of human immunodeficiency virus infection and chronic lymphocytic leukemia, and controls insulin release and also the development of diabetes. Furthermore, it catalyzes the synthesis and hydrolysis of cyclic ADP-ribose (cADPR) from NAD^+ to ADP-ribose which is essential for the regulation of intracellular Ca^{2+}. Additional information: Clone REA671 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.

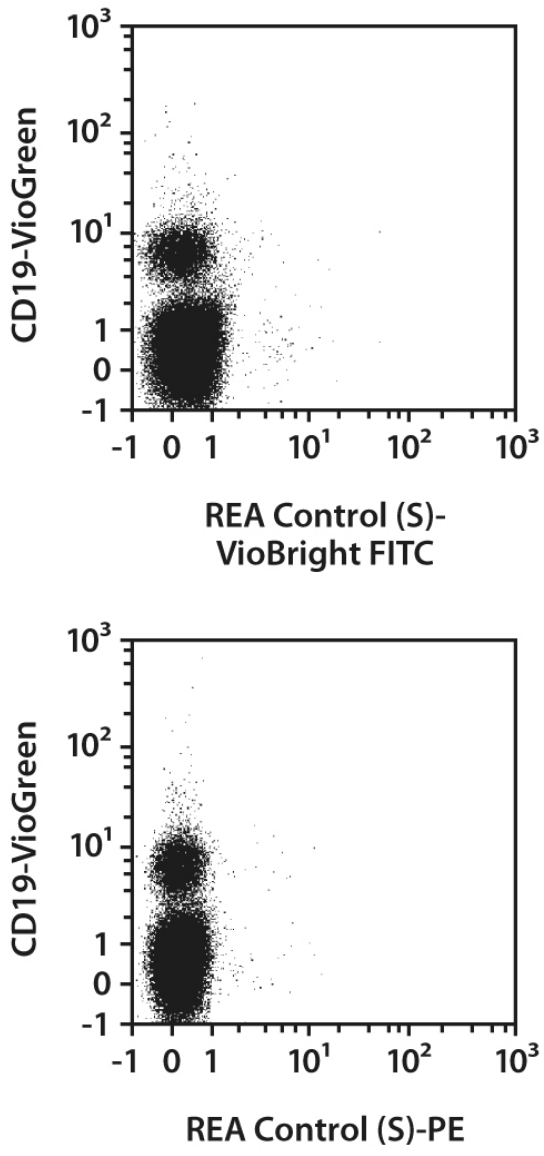
Protocol for cell surface staining

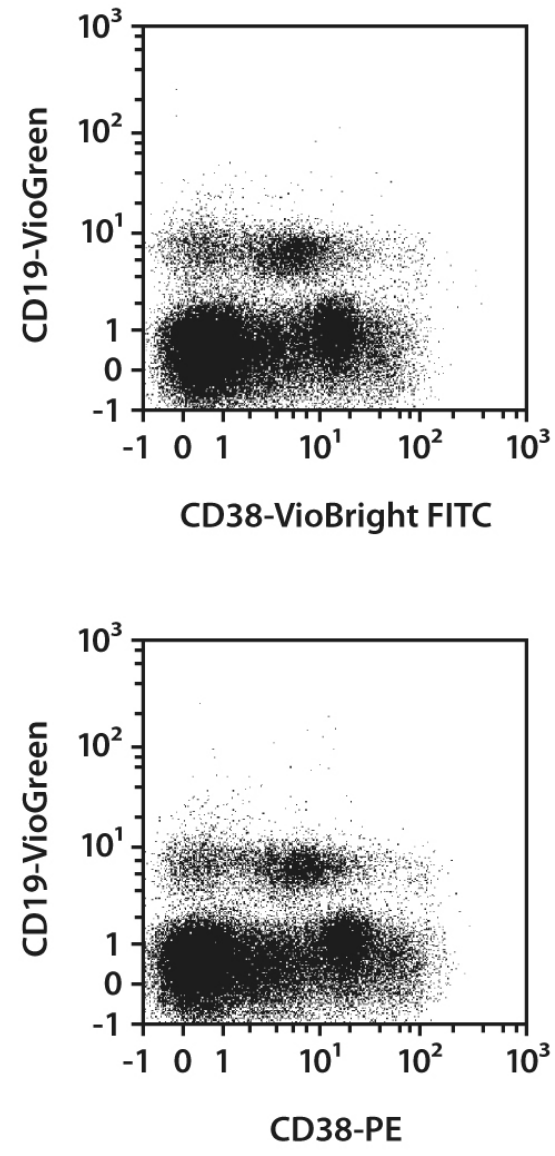
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:11 for up to 10^7 cells/100 µL of buffer.
- Volumes given below are for up to 10^7 nucleated cells. When working with fewer than 10^7 cells, use the same volumes as indicated. When working with higher 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 mononuclear cells (PBMCs) were stained with CD38 antibodies or with the corresponding REA Control (S) antibodies (left images) as well as with CD19 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.


CD19-VioGreen
REA Control (S)-VioBright FITC
REA Control (S)-PE
REA Control (S)-APC
REA Control (S)-PE-Vio770
REA Control (S)-Biotin/
Anti-Biotin-PE


CD19-VioGreen
CD38-VioBright FITC
CD38-PE
CD38-APC
CD38-PE-Vio770
CD38-Biotin/Anti-Biotin-PE

Warranty

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Miltenyi Biotec GmbH | Friedrich-Ebert-Straße 68 | 51429 Bergisch Gladbach | Germany | Phone +49 2204 8306-0 | Fax +49 2204 85197 | macs@miltenyibiotec.de | www.miltenyibiotec.com Miltenyi Biotec provides products and services worldwide. Visit **www.miltenyibiotec.com/local** to find your nearest Miltenyi Biotec contact.