

CD38 antibodies, mouse

For research use only

9 µg equal 60 tests, 30 µg equal 200 tests. One test corresponds to labeling of 10⁶ cells.

Product	Content	Order no.
CD38-FITC	9 µg in 300 µL	130-109-332
CD38-FITC	30 µg in 1 mL	130-109-254
CD38-PE	9 µg in 300 µL	130-109-334
CD38-PE	30 µg in 1 mL	130-109-256
CD38-APC	9 µg in 300 µL	130-109-335
CD38-APC	30 µg in 1 mL	130-109-257
CD38-VioBlue	9 µg in 300 µL	130-109-333
CD38-VioBlue	30 µg in 1 mL	130-109-255
CD38-VioGreen	9 µg in 300 µL	130-109-339
CD38-VioGreen	30 µg in 1 mL	130-109-261
CD38-PE-Vio770	9 µg in 300 µL	130-109-336
CD38-PE-Vio770	30 µg in 1 mL	130-109-258
CD38-APC-Vio770	9 µg in 300 µL	130-109-337
CD38-APC-Vio770	30 µg in 1 mL	130-109-259
CD38-PerCP-Vio700	9 µg in 300 µL	130-109-338
CD38-PerCP-Vio700	30 µg in 1 mL	130-109-260
CD38-Biotin	9 µg in 300 µL	130-109-331
CD38-Biotin	30 µg in 1 mL	130-109-253

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	REA616
Isotype	recombinant human IgG1
Isotype control	REA Control antibodies
Alternative names of antigen	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1, ADPRC 1, I-19, NIM-R5, T10
Molecular mass of antigen [kDa]	34
Distribution of antigen	B cells, macrophages, monocytes, T 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 REA616 recognizes the mouse CD38 antigen, a 42 kDa single-pass type II membrane protein, which is also known as ADP-ribosyl cyclase 1. CD38 is expressed on a variety of hematopoietic and non-hematopoietic cells and is involved in diverse processes such as generation of calcium-mobilizing metabolites, cell activation, and chemotaxis. In the mouse, CD38⁺ hematopoietic cells include B cells, subsets of T cell, monocytes, and macrophages. CD38 expression on these cells is modulated following activation and differentiation. In contrast to humans, CD38 expression is downregulated on mouse germinal center B cells and mouse mature plasma cells. Additional information: Clone REA616 displays negligible binding to Fc receptors.

Reagent requirements

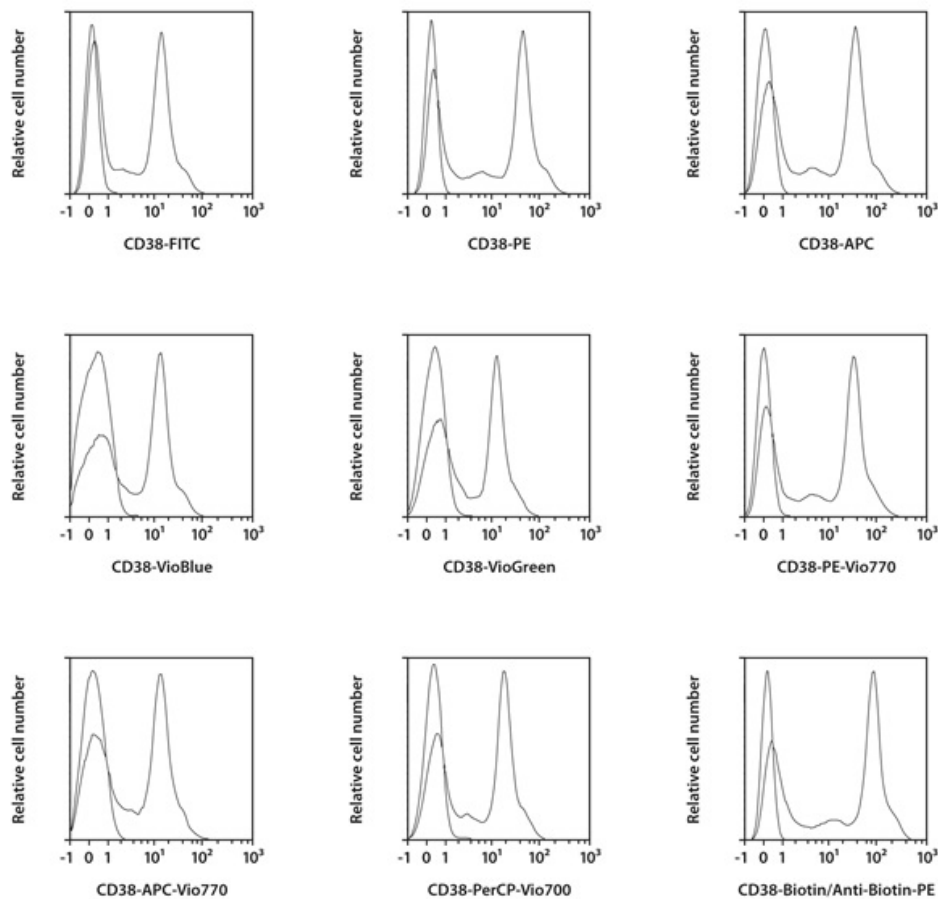
- Buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, 0.5% bovine serum albumin (BSA), and 2 mM EDTA by diluting MACS[®] BSA Stock Solution (# 130-091-376) 1:20 with autoMACS[®] Rinsing Solution (# 130-091-222). Keep buffer cold (2–8 °C). Note: EDTA can be replaced by other supplements such as anticoagulant citrate dextrose formula-A (ACD-A) or citrate phosphate dextrose (CPD). Buffers or media containing Ca²⁺ or Mg²⁺ 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 1:10 for up to 10⁶ cells/50 µL of buffer.
 - Volumes given below are for up to 10⁶ nucleated cells. When working with fewer than 10⁶ 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 2×10⁶ 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 10⁶ nucleated cells per 45 µL of buffer.
 4. Add 5 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

Splenocytes from BALB/c mice were stained with CD38 antibodies or with the corresponding REA Control antibodies (left peak). Flow cytometry was performed using the MACSQuant[®] Analyzer. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence.



References

1. **Howard, M. et al.** (1993) Formation and hydrolysis of cyclic ADP-ribose catalyzed by lymphocyte antigen CD38. *Science* 262(5136): 1056–1059.
2. **Bean, A. G. et al.** (1995) CD38 expression on mouse T cells: CD38 defines functionally distinct subsets of alpha beta TCR⁺CD4⁺CD8⁺ thymocytes. *Int. Immunol.* 7(2): 213–221.
3. **Oliver, A. M. et al.** (1997) Mouse CD38 is down-regulated on germinal center B cells and mature plasma cells. *J. Immunol.* 158(3): 1108–1115.
4. **Cockayne, D. A. et al.** (1998) Mice deficient for the ecto-nicotinamide adenine dinucleotide glycohydrolase CD38 exhibit altered humoral immune responses. *Blood* 92(4): 1324–1333.

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