CD29 antibodies, mouse

For research use only

9 µg equal 60 tests, 30 µg equal 200 tests. One test corresponds to labeling of 10^6 cells.

Product	Content	Order no.
CD29-FITC	9 µg in 300 µL	130-102-975
CD29-FITC	30 µg in 1 mL	130-102-503
CD29-PE	9 µg in 300 µL	130-102-994
CD29-PE	30 µg in 1 mL	130-102-602
CD29-APC	30 µg in 1 mL	130-102-557
CD29-PE-Vio770	9 µg in 300 µL	130-105-186
CD29-PE-Vio770	30 µg in 1 mL	130-105-125
CD29-APC-Vio770	9 µg in 300 µL	130-105-187
CD29-APC-Vio770	30 µg in 1 mL	130-105-126
CD29-Biotin	30 µg in 1 mL	130-101-943

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	CD29
Clone	HMß1-1
Isotype	hamster IgG
Alternative names of antigen	ITGB1, FNRB, GPIIa
Molecular mass of antigen [kDa]	86
Cross-reactivity	rat
Distribution of antigen	endothelial cells, fibroblasts, granulocytes, kidney, leukocytes, liver, mast cells, mesenchymal stem cells, monocytes, placenta, platelets, ES and iPS cells, red blood cells, skeletal muscle, skin, T cells
Product format	Antibodies are supplied in buffer containing stabilizer and 0.05% sodium azide.
Fixation	The antibody is suited for staining of formaldehyde-fixed cells.
Storage	Store protected from light at 2–8 °C. Do not freeze.

The monoclonal antibody HMß1-1 reacts with mouse and rat CD29, a 110–120 kDa integrin family member, also known as integrin ß1. Integrins are cell-surface receptors, expressed as heterodimers essential in various processes mediating intercellular or cell-matrix interaction. CD29 associates

non-covalently with the alpha integrins CD49a–f to form the VLA-1 through VLA-6, and CD51 to form αvß1 complexes. CD29 is broadly expressed on various tissues, including leukocytes, endothelial cells, and epithelial cells.

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, mouse (# 130-092-575) 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.

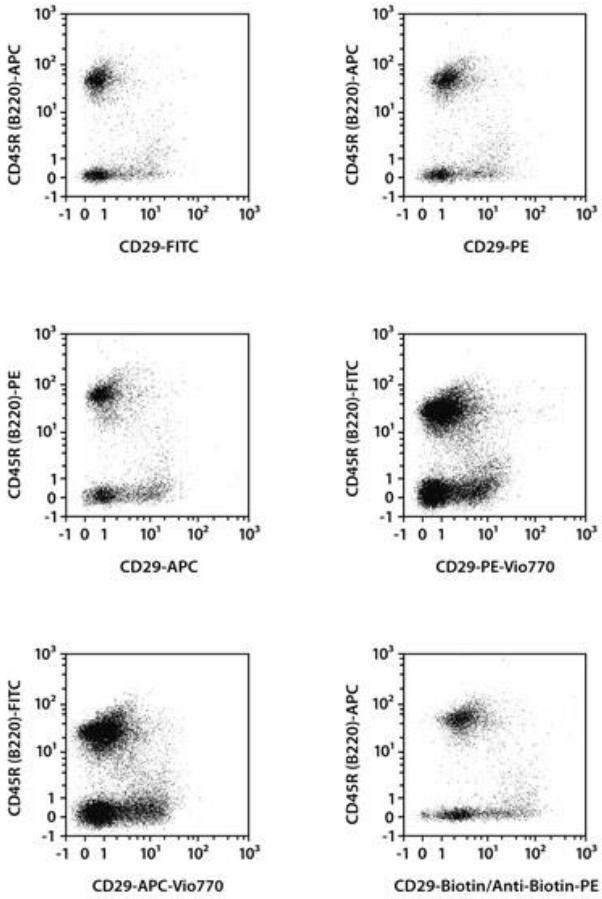
Protocol for cell surface staining

- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:10 for up to 10^6 cells/50 µL of buffer.
- 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 (e.g. for 2×10^6 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 10^6 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

C57BL/6J mouse spleen cells were stained with CD29 antibodies as well as with CD45R-APC analyzed by flow cytometry using the MACSQuant® Analyzer. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence.



References

1. **Noto, K. *et al.*** (1995) Identification and functional characterization of mouse CD29 with a mAb. Int. Immunol. 7(5): 835–842.
2. **Noto, K. *et al.*** (2001) Differential effects of CD18, CD29, and CD49 integrin subunit inhibition on neutrophil migration in pulmonary inflammation. J. Immunol. 166(5): 3484–3490.
3. **Chacko, S. M. *et al.*** (2009) Myocardial oxygeneration and functional recovery in infarct rat hearts transplanted with mesenchymal stem cells. Am. J. Physiol. Heart Circ. Physiol. 296(5): H1263–1273.

Warranty

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