CD11b antibodies, human and mouse

For research use only

One test corresponds to labeling of up to 10^7 cells in a total volume of 100 µL.

Product	Content	Order no.
CD11b-FITC	for 30 tests	130-098-085
CD11b-FITC	for 100 tests	130-081-201
CD11b-PE	for 30 tests	130-098-087
CD11b-PE	for 100 tests	130-091-240
CD11b-APC	for 30 tests	130-098-088
CD11b-APC	for 100 tests	130-091-241
CD11b-VioBlue	for 30 tests	130-098-086
CD11b-VioBlue	for 100 tests	130-097-336
CD11b-VioGreen	for 30 tests	130-098-090
CD11b-VioGreen	for 100 tests	130-097-299
CD11b-PE-Vio770	for 30 tests	130-099-708
CD11b-PE-Vio770	for 100 tests	130-099-704
CD11b-APC-Vio770	for 30 tests	130-098-089
CD11b-APC-Vio770	for 100 tests	130-096-834
CD11b-PerCP-Vio700	for 100 tests	130-097-585
CD11b-Biotin	for 30 tests	130-098-582
CD11b-Biotin	for 100 tests	130-098-581

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	CD11b
Clone	M1/70.15.11.5
Isotype	rat IgG2bκ
Isotype control	Rat IgG2b – isotype control antibodies
Alternative names of antigen	ITGAM, CR3A, Mac-1 α, MAC1A, MO1A, SLEB6, integrin αM
Molecular mass of antigen [kDa]	125
Cross-reactivity	rhesus monkey (*Macaca mulatta*), cynomolgus monkey (*Macaca fascicularis*)
Distribution of antigen	B cells, dendritic cells, granulocytes, macrophages, monocytes, NK cells, T cells

Product format	Antibodies 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.

CD11b, also known as Mac-1 α or integrin αM chain, is part of the CD11b/CD18 heterodimer (Mac-1 α, Mβ2 integrin), also known as the C3 complement receptor. It functions as a receptor for complement (C3bi), fibrinogen, or clotting factor X. In humans, CD11b is strongly expressed on myeloid cells and weakly expressed on NK cells and some activated lymphocytes as well as on microglia in the brain. In mice, the CD11b antigen is expressed on monocytes/macrophages and microglia. To a lower extent it is expressed on granulocytes, NK cells, $CD5^+$ B-1 cells, and subsets of dendritic cells. The monoclonal M1/70.15.11.5 antibody recognizes the human, mouse, and non-human primate CD11b antigen.

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, human (# 130-059-901) 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

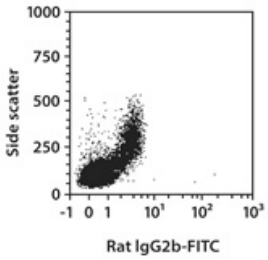
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:11 for up to 10^7 cells/100 µL of buffer.
- Volumes given below are for up to 10^7 nucleated cells. When working with fewer than 10^7 cells, use the same volumes as indicated. When working with higher 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).

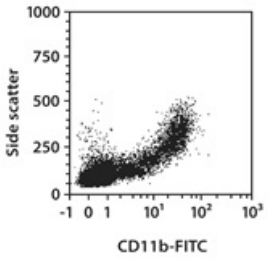
1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to 10^7 nucleated cells per 100 µL of buffer.
4. Add 10 µL of the antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2−8 °C).
   Note: Higher 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 CD11b antibodies or with the

corresponding isotype control antibodies (left image) 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.


Side scatter
Rat IgG2b-FITC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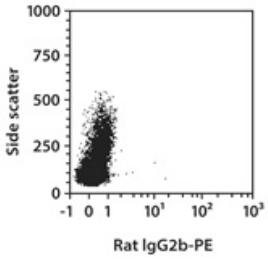
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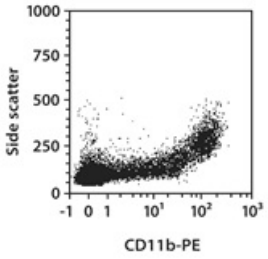
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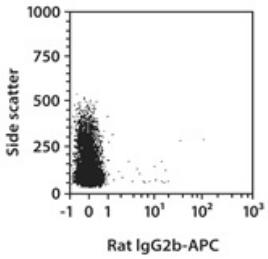
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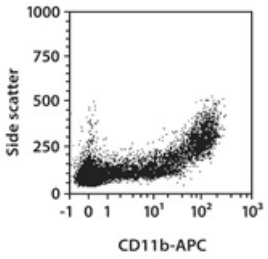
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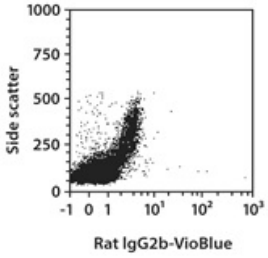
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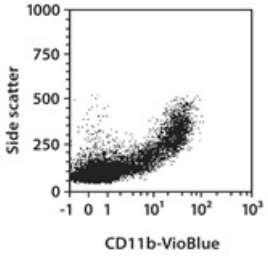
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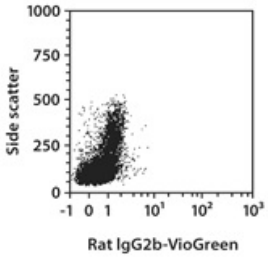
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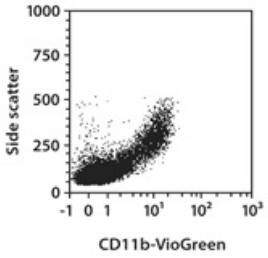
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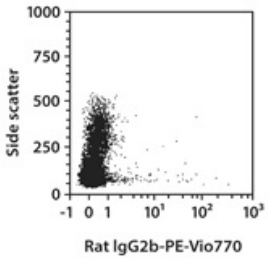
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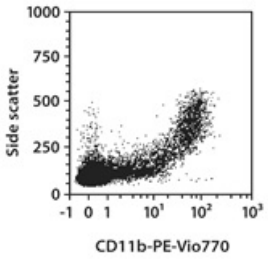
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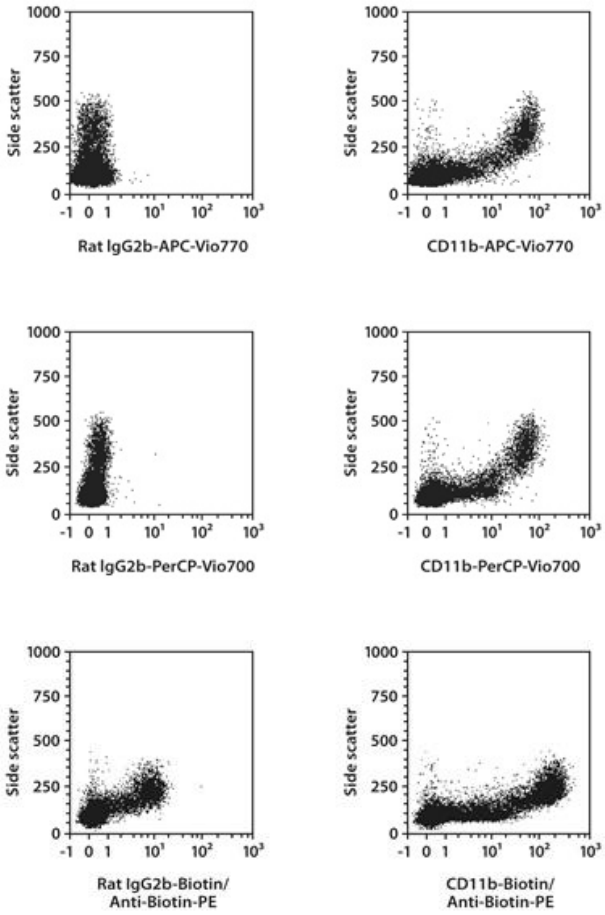
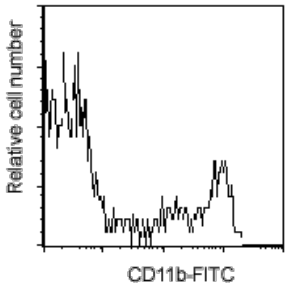
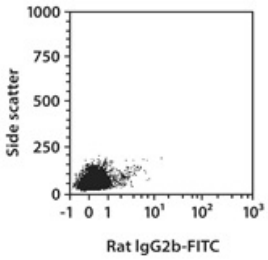


Rhesus monkey PBMCs were stained with CD11b-FITC and analyzed by flow cytometry.



Mouse spleenocytes were stained with CD11b antibodies or with the corresponding isotype control antibodies (left image) and 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 or 4',6-diamidino-2-phenylindole (DAPI) fluorescence, as in the case of tandem conjugates.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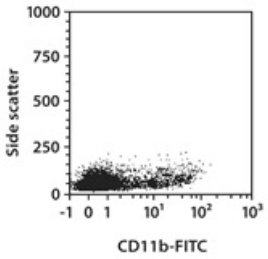
Rat IgG2b-FITC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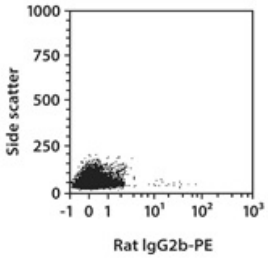
CD11b-FITC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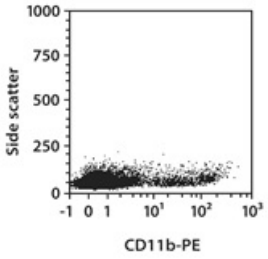
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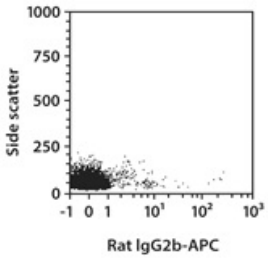
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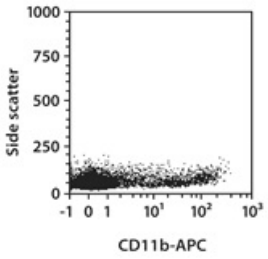
Rat IgG2b-APC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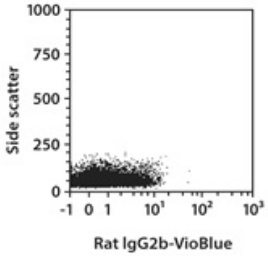
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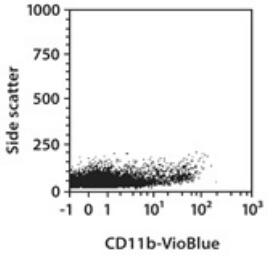
Rat IgG2b-VioBlue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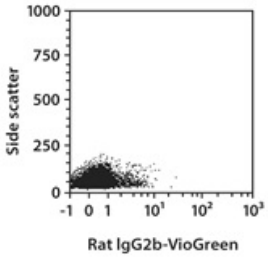
CD11b-VioBlue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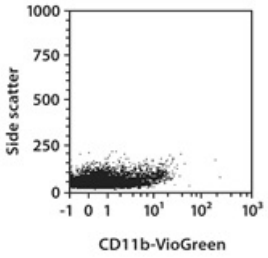
Rat IgG2b-VioGreen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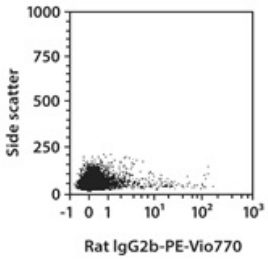
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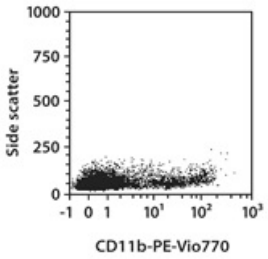
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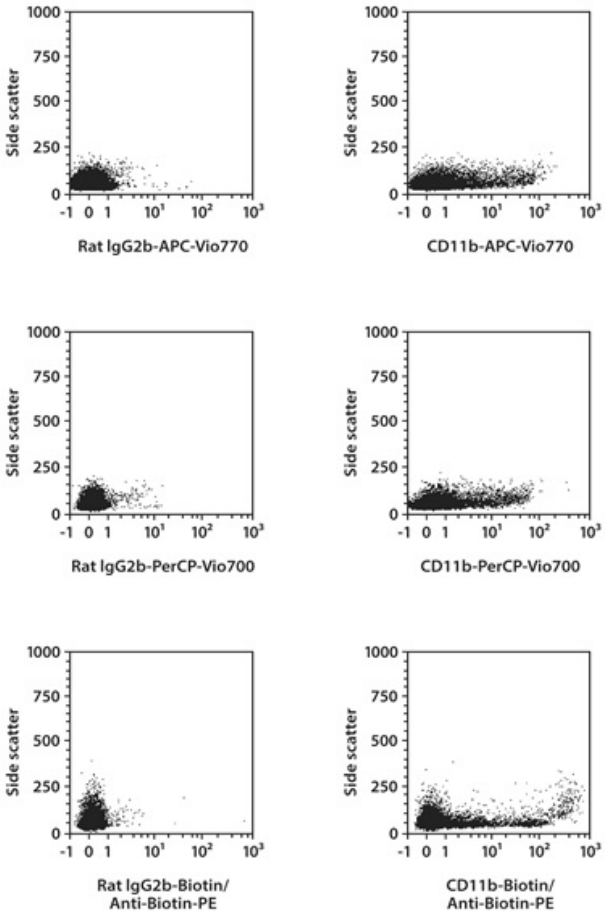
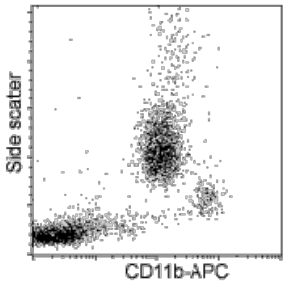


Cynomolgus monkey peripheral blood cells were stained with CD11b-APC and analyzed by flow cytometry. Data were kindly provided by the California National Primate Research Center, Davis, CA, USA.



References

1. **Lebson, L. *et al.*** (2010) Trafficking CD11b-positive blood cells deliver therapeutic genes to the brain of amyloid-depositing transgenic mice. J. Neurosci. 30(29): 9651–9658.
2. **Liu, T. *et al.*** (2014) Gr-1^{+}CD11b^{+} cells facilitate Lewis lung cancer recurrence by enhancing neovasculature after local irradiation. Sci. Rep. 4: 4833.

Warranty

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