CD19 antibodies, human

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.
CD19-FITC[1]	for 30 tests	130-098-064
CD19-FITC[1]	for 100 tests	130-091-328
CD19-VioBright FITC[1]	for 30 tests	130-104-650
CD19-VioBright FITC[1]	for 100 tests	130-104-578
CD19-PE	for 30 tests	130-098-068
CD19-PE	for 100 tests	130-091-247
CD19-APC	for 30 tests	130-098-069
CD19-APC	for 100 tests	130-091-248
CD19-VioBlue	for 30 tests	130-098-606
CD19-VioBlue	for 100 tests	130-098-598
CD19-VioGreen	for 30 tests	130-106-714
CD19-VioGreen	for 100 tests	130-098-226
CD19-PE-Vio615	for 30 tests	130-108-388
CD19-PE-Vio615	for 100 tests	130-108-359
CD19-PE-Vio770	for 30 tests	130-098-071
CD19-PE-Vio770	for 100 tests	130-096-641
CD19-APC-Vio770	for 30 tests	130-098-073
CD19-APC-Vio770	for 100 tests	130-096-643
CD19-PerCP-Vio700[1]	for 30 tests	130-100-297
CD19-PerCP-Vio700[1]	for 100 tests	130-097-686
CD19-Biotin[1]	for 100 tests	130-098-533

[1]Not recommended for cells that are labeled with MACS MicroBeads using the same antigen.

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	CD19
Clone	LT19
Isotype	mouse IgG1
Isotype control	Mouse IgG1 – isotype control antibodies
Alternative names of antigen	B4, CVID3
Molecular mass of antigen [kDa]	59

Distribution of antigen	B cells, dendritic 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.

The CD19 antibody recognizes the human CD19 antigen, a type I transmembrane glycoprotein of 95 kDa that belongs to the immunglobulin superfamily. CD19 is expressed on B cells throughout most stages of B cell differentiation, though its expression is down-regulated during their terminal differentiation to plasma cells. Expression of CD19 is also found in the majority of B cell–derived malignancies. CD19 is further present on follicular dendritic cells. On B cells, CD19 associates with CD21, CD81, and CD225 (Leu-13) forming a signal transduction complex.

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

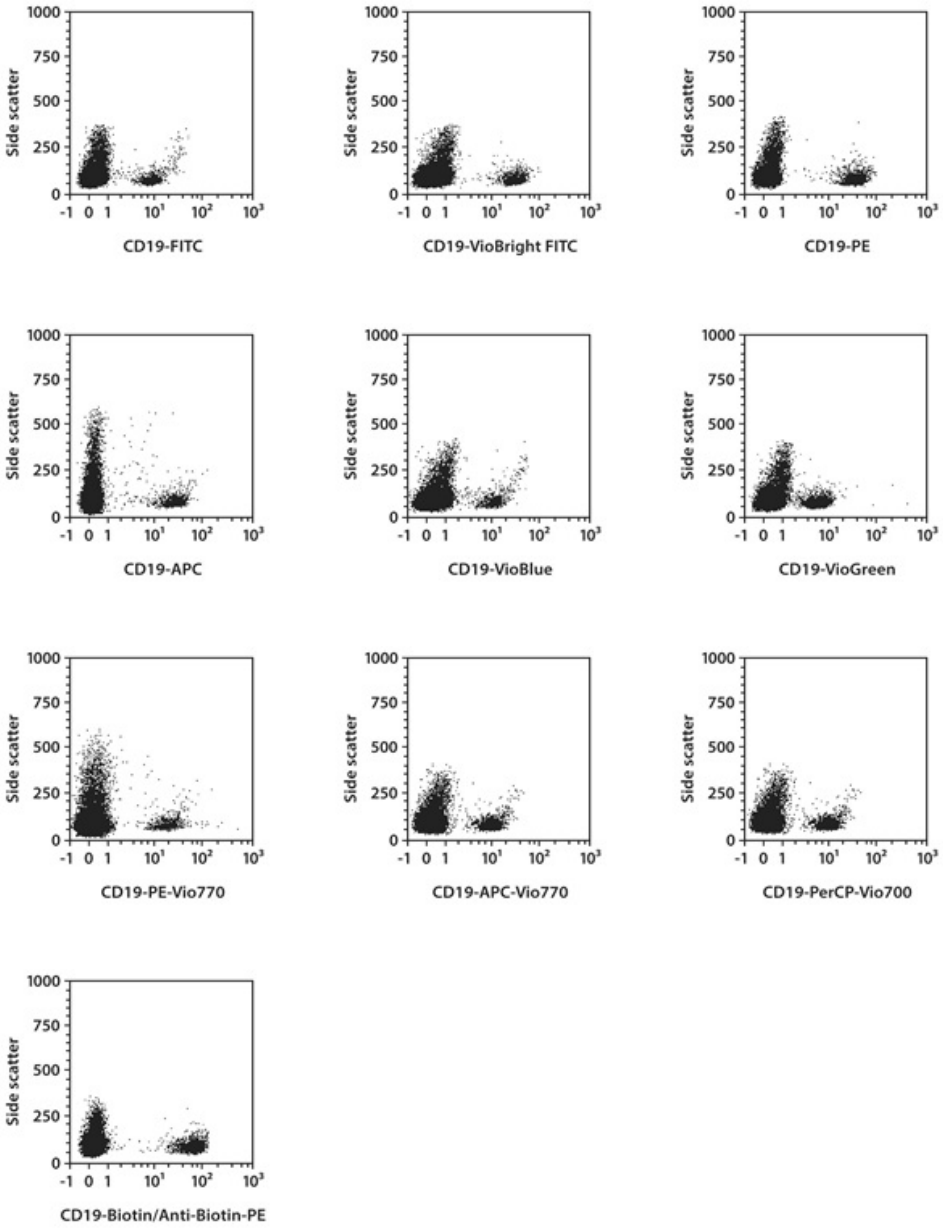
- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:11 for up to 10^7 cells/100 µL of buffer.
- Volumes given below are for up to 10^7 nucleated cells. When working with fewer than 10^7 cells, use the same volumes as indicated. When working with higher 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 CD19 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.



References

1. **Nadler, L.M. *et al.*** (1983) B4, a human B lymphocyte-associated antigen expressed on normal, mitogen-activated, and malignant B lymphocytes. J. Immunol. 131(1): 244–250.
2. **Fujimoto, M. *et al.*** (2000) CD19 regulates intrinsic B lymphocyte signal transduction and activation through a novel mechanism of processive amplification. Immunol. Res. 22(2-3): 281–298.
3. **Poe, j. C. *et al.*** (2001) CD19, CD21, and CD22: multifaceted response regulators of B lymphocyte signal transduction. Int. Rev. Immunol. 20(6): 739–762.
4. **Tedder, T. F. *et al.*** (2002) CD19-CD21 complex regulates an intrinsic Src family kinase amplification loop that links innate immunity with B-lymphocyte intracellular calcium responses. Biochem. Soc. Trans. 30(4): 807–811.

Warranty

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