Anti-TCRα/β 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.
Anti-TCRα/β-FITC	for 30 tests	130-109-974
Anti-TCRα/β-FITC	for 100 tests	130-109-919
Anti-TCRα/β-PE	for 30 tests	130-109-975
Anti-TCRα/β-PE	for 100 tests	130-109-920
Anti-TCRα/β-APC	for 30 tests	130-109-976
Anti-TCRα/β-APC	for 100 tests	130-109-921
Anti-TCRα/β-VioBlue	for 30 tests	130-110-461
Anti-TCRα/β-VioBlue	for 100 tests	130-110-457
Anti-TCRα/β-VioGreen	for 30 tests	130-109-980
Anti-TCRα/β-VioGreen	for 100 tests	130-109-925
Anti-TCRα/β-PE-Vio770	for 30 tests	130-109-977
Anti-TCRα/β-PE-Vio770	for 100 tests	130-109-922
Anti-TCRα/β-APC-Vio770	for 30 tests	130-109-978
Anti-TCRα/β-APC-Vio770	for 100 tests	130-109-923
Anti-TCRα/β-PerCP-Vio700	for 30 tests	130-109-979
Anti-TCRα/β-PerCP-Vio700	for 100 tests	130-109-924
Anti-TCRα/β-Biotin	for 30 tests	130-109-973
Anti-TCRα/β-Biotin	for 100 tests	130-109-918

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	TCRα/β
Clone	REA652
Isotype	recombinant human IgG1
Isotype control	REA Control (S) antibodies
Alternative names of antigen	TCR a/b, IMD7, TCRA, TRAC, TRA, TRB
Distribution of antigen	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 REA652 recognizes the human α/β T cell receptor (TCR). The T cell receptor is a heterodimer composed of two transmembrane glycoprotein chains, α and β. In 95% of T cells the TCR consists of an α and β chain, whereas in 5% of T cells it has γ and δ chains. α and β chains are members of the Ig superfamily and consist of a constant and a polymorphic variable region. The variable region of the TCRα/β is involved in recognition of antigenic peptides presented by the MHC complex of antigen-presenting cells.
Additional information: Clone REA652 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.

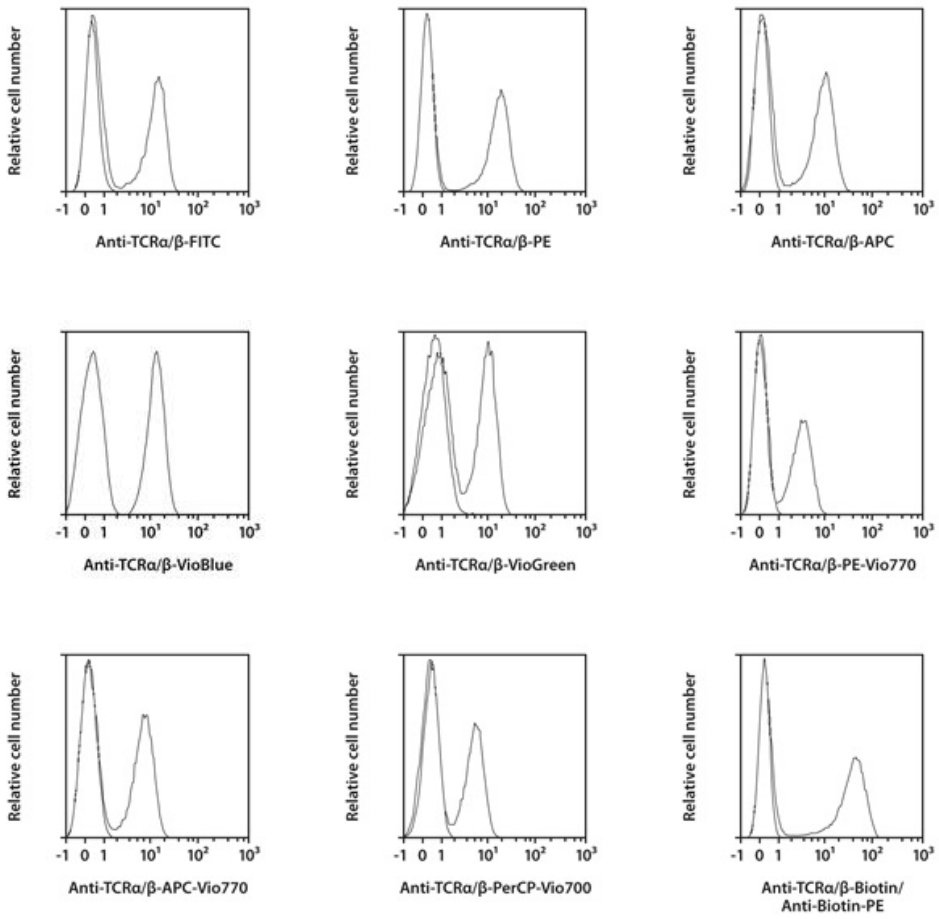
Protocol for cell surface staining

- 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 Anti-TCRα/β antibodies or with the corresponding REA Control (S) antibodies (left peak). 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.



References

1. **Oettgen, H. C. *et al.*** (1984) Characterization of the two heavy chains of the T3 complex on the surface of human T lymphocytes. J. Biol. Chem. 259(19): 12039–12048.
2. **Brenner, M. B. *et al.*** (1986) Identification of a putative second T-cell receptor. Nature 322(6075): 145–149.
3. **Call, M. E. *et al.*** (2002) The organizing principle in the formation of the T cell receptor-CD3 complex. Cell 111(7): 967–979.

Warranty

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