



Antibodies

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1. Description

Clone	BW242/412 (isotype: mouse IgG2b).
Components	1 mL Anti-TCR α/β antibodies, human: monoclonal Anti-TCR α/β antibodies conjugated to R-phycoerythrin (PE), or allophycocyanin (APC). The antibodies are supplied in a solution containing 0.1% gelatine and 0.05% sodium azide.
Product size	For 10^9 total cells, up to 100 stainings.
Storage	Store protected from light at 4–8 °C. Do not freeze. The expiration date is indicated on the vial label.

1.1 Background and product applications

The TCR α/β is the T cell receptor heterodimer composed of two transmembrane glycoprotein chains, α and β . Both chains are members of the Ig superfamily and consist of a constant and a polymorphic variable region. The variable region of the TCR α/β is involved in recognition of antigenic peptides presented by the MHC complex of antigen-presenting cells. The TCR α/β is expressed on the majority of peripheral blood T cells.

The Anti-TCR α/β antibody recognizes a common determinant on the TCR α/β -CD3 complex.

Product applications

- Identification and enumeration of TCR α/β^+ cells by flow cytometry or fluorescence microscopy.
- Evaluation of MACS[®] separations by flow cytometry or fluorescence microscopy. Human T cells can be isolated by using, e.g. CD3 MicroBeads (# 130-050-101), Pan T Cell Isolation Kit II (130-091-156). γ/δ T cells can be isolated by using, e.g. the Anti-TCR γ/δ MicroBead Kit (# 130-050-701).

Anti-TCR α/β antibodies human

Anti-TCR α/β -PE
Anti-TCR α/β -APC

130-091-236
130-091-237

1.2 Staining concentrations for human cells.

Anti-TCR α/β -conjugate	PE	APC
Recommended antibody dilution ^{a)}		
Flow cytometry		
- in general	1:11	1:11
- formaldehyde-fixed cells	1:11	1:11
- CD3 MicroBeads-labeled cells	1:11	1:11

a) Given antibody dilutions are for a cell concentration of up to 1×10^8 cells/mL buffer.

1.3 Reagent requirements

- Buffer: Prepare a solution containing PBS (phosphate buffered saline) pH 7.2, 0.5% BSA (bovine serum albumin) and 2 mM EDTA by diluting MACS BSA Stock Solution (# 130-091-376) 1:20 in autoMACS[™] Rinsing Solution (# 130-091-222). Keep buffer cold (4–8 °C).
 - ▲ **Note:** EDTA can be replaced by other supplements such as anticoagulant citrate dextrose formula-A (ACD-A) or citrate phosphate dextrose (CPD). BSA can be replaced by other proteins such as human serum albumin, human serum or fetal calf serum. Buffers or media containing Ca^{2+} or Mg^{2+} are not recommended for use.
- (Optional) PI (propidium iodide) or 7-AAD for flow- cytometric exclusion of dead cells without cell fixation. For cell fixation and flow-cytometric exclusion of dead cells, the Fixation and Dead Cell Discrimination Kit (#130-091-163) is recommended.

2. General protocol for immunofluorescent staining

▲ Volumes for fluorescent labeling given below are for up to 10^7 total 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 total cells, use twice the volume of all indicated reagent volumes and total volumes).

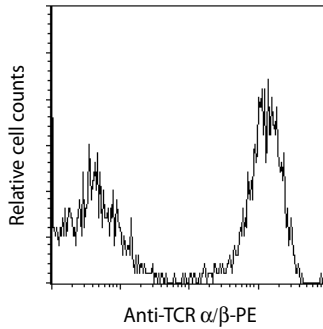
1. Resuspend 10^7 cells in 100 μL of buffer.
2. Add 10 μL of Anti-TCR α/β antibodies.
3. Mix well and incubate for 10 minutes in the dark at 4–8 °C.
 - ▲ **Note:** Working on ice requires increased incubation time. Higher temperatures and/or longer incubation times lead to non-specific cell labeling.
4. Wash cells by adding 1–2 mL of buffer per 10^7 cells and centrifuge at $300 \times g$ for 10 minutes. Pipette off supernatant completely.
5. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy.



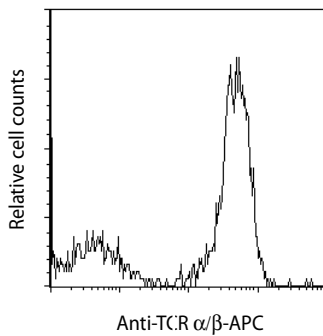
3. Example of immunofluorescent staining with Anti-TCR α/β antibodies

Human peripheral mononuclear blood cells (PBMCs) were stained with Anti-TCR α/β antibodies conjugated to PE (a), or APC (b), and analyzed by flow cytometry. Cell debris and dead cells were excluded from the analysis based on scatter signals and PI fluorescence.

(a) Human PBMCs stained with Anti-TCR α/β -PE.



(b) Human PBMCs stained with Anti-TCR α/β -APC.



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.

Warranty

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