# Anti-IL-12R β2 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. |
|---|---|---|
| Anti-IL-12R β2-PE | 9 µg in 300 µL | 130-105-017 |
| Anti-IL-12R β2-PE | 30 µg in 1 mL | 130-104-965 |
| Anti-IL-12R β2-APC | 9 µg in 300 µL | 130-105-018 |
| Anti-IL-12R β2-APC | 30 µg in 1 mL | 130-104-966 |
| Anti-IL-12R β2-PE-Vio770 | 9 µg in 300 µL | 130-105-020 |
| Anti-IL-12R β2-PE-Vio770 | 30 µg in 1 mL | 130-104-968 |
| Anti-IL-12R β2-APC-Vio770 | 9 µg in 300 µL | 130-105-019 |
| Anti-IL-12R β2-APC-Vio770 | 30 µg in 1 mL | 130-104-967 |
| Anti-IL-12R β2-Biotin | 9 µg in 300 µL | 130-105-016 |
| Anti-IL-12R β2-Biotin | 30 µg in 1 mL | 130-104-964 |

## 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** | IL-12R β2 |
| **Clone** | REA200 |
| **Isotype** | recombinant human IgG1 |
| **Isotype control** | REA Control antibodies |
| **Alternative names of antigen** | IL12RB2, IL-12RB2, Ifnm |
| **Molecular mass of antigen [kDa]** | 96 |
| **Distribution of antigen** | 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. |

Clone REA200 recognizes the mouse Interleukin-12 receptor subunit beta-2 (IL-12R β2) antigen, a Single-pass type I membrane protein which forms the functional high affinity IL-12 receptor together with the IL-12R β1 subunit. While the IL-12R β1 subunit is constitutively expressed, the expression of the IL-12R β2 gene is up-regulated by interferon gamma. IL-12R β2 is expressed by Th1 cells and IL-12 signaling through the IL-12 receptor leads to the phosphorylation of STAT4 and continued Th1

differentiation. The IL-12R β2 subunit plays an important role in Th1 cell differentiation, since its absence leads to an abortive Th1 differentiation that has dysfunctional production of Th1 effector molecules. The up-regulation of IL-12R β2 is found to be associated with a number of infectious diseases, such as Crohn's disease and leprosy, which is thought to contribute to the inflammatory response and host defense.
Additional information: Clone REA200 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) 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.

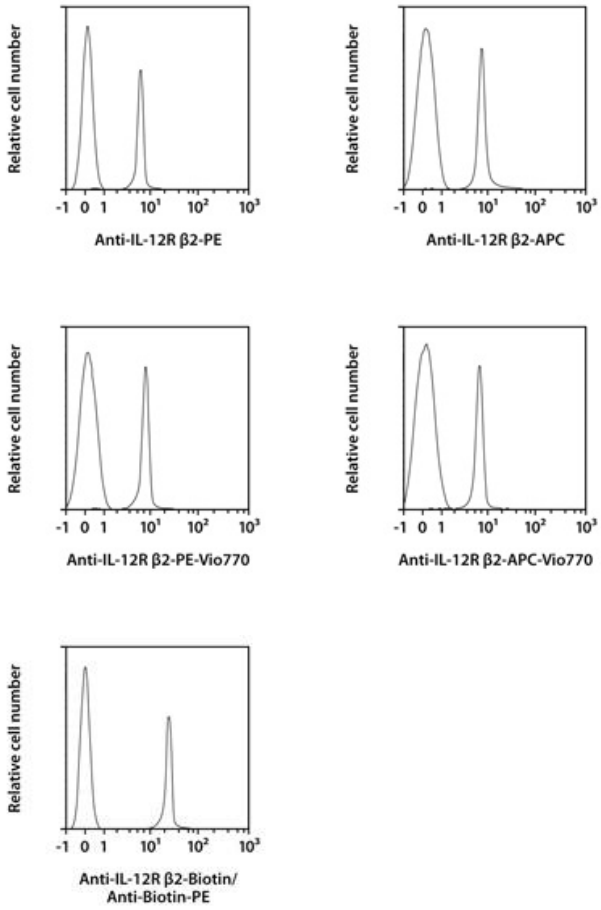
## Protocol for cell surface staining

- 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 $2\times10^6$ 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

Latex beads were coated with recombinant human IL-12 receptor subunit beta-2 protein and then stained with Anti-IL-12R β2 antibodies or with the corresponding REA control antibodies (left peak). Flow cytometry was performed with the MACSQuant® Analyzer.




## References


1. **Nishikomori, R. *et al.*** (2002) Activated STAT4 has an essential role in Th1 differentiation and proliferation that is independent of its role in the maintenance of IL-12R beta 2 chain expression and signaling. J. Immunol. 169(8): 4388–4398.
2. **Yin, Z. *et al.*** (2000) Dominance of IL-12 over IL-4 in gamma delta T cell differentiation leads to default production of IFN-gamma: failure to down-regulate IL-12 receptor beta 2-chain expression. J. Immunol. 164(6): 3056–3064.
3. **Presky, D. H. *et al.*** (1996) A functional interleukin 12 receptor complex is composed of two beta-type cytokine receptor subunits. Proc. Natl. Acad. Sci. U.S.A. 93(24): 14002–14007.


## Warranty

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