

**DESCRIPTION**

|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Mouse   |
| <b>Specificity</b>        | Detects mouse IL-23 R in direct ELISAs.   |
| <b>Source</b>             | Monoclonal Rat IgG <sub>1</sub> Clone # 753317  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse IL-23 R<br>Gly24-Asp372<br>Accession # Q8K4B4   |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

|                       | <b>Recommended Concentration</b>   | <b>Sample</b> |
|-----------------------|--|---------------|
| <b>Flow Cytometry</b> | 0.25 µg/10 <sup>6</sup> cells  | See Below     |
| <b>CyTOF-ready</b>    | Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation. |               |

**DATA**

**Flow Cytometry**

**Detection of IL-23 R in Mouse Splenocytes by Flow Cytometry.**  
 Mouse splenocytes treated with 10 µg/mL Anti-Mouse CD3 Antibody (Catalog # MAB484), 5 µg/mL Anti-Mouse CD28 Antibody (Catalog # AF483), 10 ng/mL Recombinant Mouse TGF-beta 1 (Catalog # 100-B), 20 ng/mL Recombinant Mouse IL-23 (Catalog # 1887-ML), 40 ng/mL Recombinant Mouse IL-6 (Catalog # 406-ML), and 10 ng/mL Recombinant Mouse IL-1 beta (Catalog # 401-ML) for 5 days to induce Th17 activation were stained with Rat Anti-Mouse CD4 PE-conjugated Monoclonal Antibody (Catalog # FAB554P) and either (A) Rat Anti-Mouse IL-23 R APC-conjugated Monoclonal Antibody (Catalog # FAB16861A) or (B) Rat IgG1 APC Isotype Control (Catalog # IC005A).

Data shown is from the APC-conjugated version of this clone. Conjugation to a bright fluorochrome is suggested due to the low expression level of IL-23 R. View our protocol for [Staining Membrane-associated Proteins](#).

**PREPARATION AND STORAGE**

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Reconstitute at 0.5 mg/mL in sterile PBS.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C   |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

**BACKGROUND**

Interleukin 23 (IL-23) is a heterodimeric cytokine composed of two disulfide-linked subunits, a p19 subunit that is unique to IL-23, and a p40 subunit that is shared with IL-12 (1-5). The functional IL-23 receptor complex consists of two receptor subunits, the IL-12 receptor beta 1 subunit (IL-12 Rβ1) and the IL-23-specific receptor subunit (IL-23 R) (3). Mouse IL-23 R cDNA encodes a 644 amino acid (aa) type I transmembrane protein with a 23 aa residue signal peptide, a 349 aa residue extracellular domain, a 23 aa residue transmembrane domain and a 249 aa residue cytoplasmic region. IL-23 R shares structural features with the IL-12 Rβ2, including an N-terminal Ig-like domain, two cytokine receptor domains and multiple glycosylation sites in the extracellular domain. IL-23 R lacks the three extracellular membrane-proximal fibronectin-type III domains present on IL-12 Rβ2. IL-23 R has a WQPWS sequence in the transmembrane-proximal cytokine receptor domain similar to the cytokine receptor signature WSXWS motif. The cytoplasmic region of IL-23 R has three potential Src homology 2 domain-binding sites and two potential Stat-binding sites. The gene for human IL-23 R is located on human chromosome 1 within 150 kb of IL-12 Rβ2. Human and mouse IL-23 R share 66% amino acid sequence identity. Mouse IL-23 R is expressed in mouse Th1 and Th2 cells, bone marrow, dendritic cells and macrophages. It is also expressed by mouse CD4<sup>+</sup> CD45RB<sup>low</sup> memory T cells but at much lower levels by mouse CD4<sup>+</sup> CD45RB<sup>high</sup> cells. IL-23 initiates a signal transduction cascade similar to that of IL-12 and involves Jak2, Tyk2, STAT1, STAT3, STAT4, and STAT5. IL-23 has biological activities that are similar to, but distinct from, IL-12.

**References:**

1. Oppmann, B. *et al.* (2000) *Immunity* **13**:715.
2. Lankford, C.S. and D.M. Frucht (2003) *J. Leukoc. Biol.* **73**:49.
3. Parham, C. *et al.* (2002) *J. Immunol.* **168**:5448.
4. Belladonna, M.L. *et al.* (2002) *J. Immunol.* **168**:5448.
5. Aggarwal, S. *et al.* (2003) *J. Biol. Chem.* **278**:1910.