

DESCRIPTION	
Species Reactivity	Mouse
Specificity	Detects endogenous mouse IL-23 R by flow cytometry.
Source	Monoclonal Rat IgG ₁ Clone # 753317
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-23 R Gly24-Asp372 Accession # Q8K4B4
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

	Recommended Concentration	Sample
Flow Cytometry	5 µL/10 ⁶ cells	See Below

DATA

Flow Cytometry

Detection of IL-23 R in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes treated with 10 µg/mL Anti-CD3 (Catalog # [MAB484](#)), 5 µg/mL Anti-CD28 (Catalog # [AF483](#)), 10 ng/mL Recombinant Mouse TGF-β1 (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-1β (Catalog # [401-ML](#)) for 5 days to induce T17 activation were stained with Rat Anti-Mouse CD4 APC-conjugated Monoclonal Antibody (Catalog # [FAB544A](#)) and either (A) Rat Anti-Mouse IL-23 R PE-conjugated Monoclonal Antibody (Catalog # [FAB16861P](#)) or (B) Rat IgG₁ Phycoerythrin Isotype Control (Catalog # [IC005P](#)). View our protocol for [Staining Membrane-associated Proteins](#).

Flow Cytometry

Detection of IL-23 R in HEK293 Human Cell Line Transfected with Mouse IL-23 R by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with (A) mouse IL-23 R or (B) irrelevant transfectants was stained with Rat Anti-Mouse IL-23 R Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # [FAB16861G](#), filled histogram) or isotype control antibody (Catalog # [IC005G](#), open histogram). View our protocol for [Staining Membrane-associated Proteins](#).

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

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⁺ CD45RB^{low} memory T cells but at much lower levels by mouse CD4⁺ CD45RB^{high} 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.

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