

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IL-10 R β in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-10 R α , rhIFN- γ RI, and rhIFN- γ R2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 90220
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-10 R β Met20-Ser220 Accession # Q08334
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m filtered solution in PBS.

APPLICATIONS	
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration Sample
Western Blot	1 μ g/mL Recombinant Human IL-10 R β Fc Chimera (Catalog # 874-RB)
Flow Cytometry	0.25 μ g/10 ⁶ cells See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.
Neutralization	Measured by its ability to neutralize IL-10 R β -mediated IL-10 response in LPS-activated human peripheral blood mononuclear cells (PBMC). Ralph, P. <i>et al.</i> (1991) <i>J. Immunology</i> 148 :808. The Neutralization Dose (ND ₅₀) is typically 0.5-2 μ g/mL in the presence of 0.25 ng/mL Recombinant Human IL-10 and 0.25 ng/mL LPS.

DATA	
<p>Neutralization</p> <p>IL-10 Inhibition of IL-1β secretion and Neutralization by Human IL-10 Rβ Antibody. Recombinant Human IL-10 (Catalog # 217-IL) inhibits IL-1β secretion in LPS-activated human peripheral blood mononuclear cells (PBMC) in a dose-dependent manner (orange line), as measured by the Human IL-1β/L-1F2 Quantikine ELISA Kit (Catalog # DLB50). IL-1β secretion inhibited by Recombinant Human IL-10 (0.25 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-10 Rβ Monoclonal Antibody (Catalog # MAB874). The ND₅₀ is typically 0.5-2 μg/mL in the presence of LPS (0.25 ng/mL).</p>	<p>Flow Cytometry</p> <p>Detection of IL-10 R beta in Human PBMC Monocytes by Flow Cytometry Human PBMC monocytes were stained with Mouse Anti-Human IL-10 R beta Monoclonal Antibody (Catalog # MAB874, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram) followed by PE-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). View our protocol for Staining Membrane-associated Proteins.</p>

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

BACKGROUND

IL-10 R β , also known as IL-10 R2, mediates its biological activities via binding to a heteromeric receptor complex consisting of two distinct type II cytokine receptor subunits, the ligand binding IL-10 R α and the IL-10 R β which does not bind IL-10 by itself but is required for signal transduction. The cDNA for human IL-10 R β encodes a 325 amino acid (aa) type I transmembrane precursor protein with a 20 aa signal sequence, a 200 aa extracellular region, a 29 aa transmembrane segment and a 76 aa cytoplasmic domain. Within the extracellular region, there are two 100 aa subdomains that resemble the constant region of immunoglobulins. This structural motif is responsible for the alternative designation of IL-10 R β as CRF2-4 (the 4th member of the cytokine receptor family class II/2). Human and mouse IL-10 R β share approximately 69% aa sequence identity. Binding of the non-covalent IL-10 dimer to two IL-10 R α chains recruits two IL-10 R β chains resulting in the activation and phosphorylation of the signaling cascade involving JAK1, TYK2, and STAT3. IL-10 R β is expressed ubiquitously. IL-10 R β is also a component of the IL-22 receptor complex consisting of the IL-10 R β chain and IL-22 R, another type II cytokine receptor family member.

References:

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2. Donnelly, R.P. *et al.* (1999) *J. Interferon Cytokine Res.* **19**:563.
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4. Liu, Y. *et al.* (1994) *J. Immunol.* **152**:1821.
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