

## DESCRIPTION

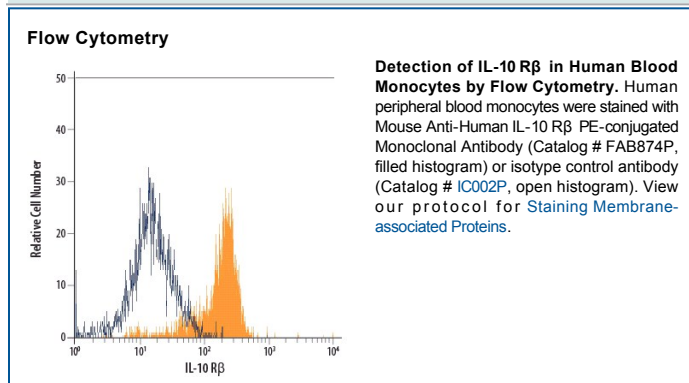
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Human  |
| <b>Specificity</b>        | Detects human IL-10 R $\beta$ in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-10 R $\alpha$ , rhIFN- $\gamma$ R1, and rhIFN- $\gamma$ R2 is observed.   |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 90220  |
| <b>Purification</b>       | Protein A or G purified from ascites   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human IL-10 R $\beta$<br>Met20-Ser220<br>Accession # Q08334  |
| <b>Conjugate</b>          | Phycoerythrin<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 565-605 nm  |
| <b>Formulation</b>        | Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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    |
|-----------------------|----------------------------------|-----------|
| <b>Flow Cytometry</b> | 10 $\mu$ L/10 <sup>6</sup> cells | See Below |

## DATA



## 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.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

## BACKGROUND

IL-10 R $\beta$ , 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 $\alpha$  and the IL-10 R $\beta$  which does not bind IL-10 by itself but is required for signal transduction. The cDNA for human IL-10 R $\beta$  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 $\beta$  as CRF2-4 (the 4<sup>th</sup> member of the cytokine receptor family class II/2). Human and mouse IL-10 R $\beta$  share approximately 69% aa sequence identity. Binding of the non-covalent IL-10 dimer to two IL-10 R $\alpha$  chains recruits two IL-10 R $\beta$  chains resulting in the activation and phosphorylation of the signaling cascade involving JAK1, TYK2, and STAT3. IL-10 R $\beta$  is expressed ubiquitously. IL-10 R $\beta$  is also a component of the IL-22 receptor complex consisting of the IL-10 R $\beta$  chain and IL-22 R, another type II cytokine receptor family member.

## References:

1. Donnelly, R.P. *et al.* (2004) *J. Leukoc. Biol.* **76**:314.
2. Donnelly, R.P. *et al.* (1999) *J. Interferon Cytokine Res.* **19**:563.
3. Kotenko, S.V. *et al.* (2000) *J. Biol. Chem.* **276**:2725.
4. Liu, Y. *et al.* (1994) *J. Immunol.* **152**:1821.
5. Lutfalla, G. *et al.* (1993) *Genomics* **16**:366.
6. Kotenko, S.V. *et al.* (1997) *EMBO J.* **16**:5894.