

## DESCRIPTION

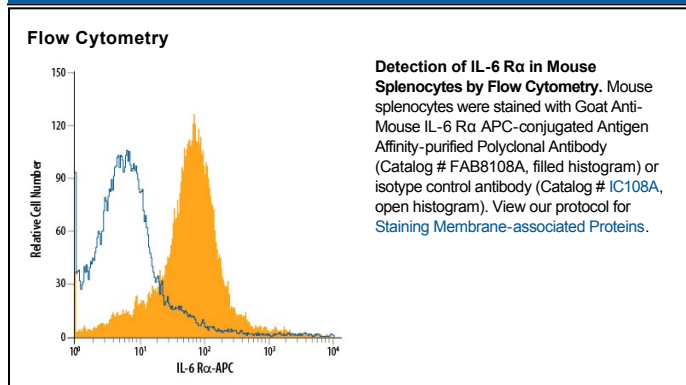
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse IL-6 R $\alpha$ in ELISA and Western blot.   |
| <b>Source</b>             | Polyclonal Goat IgG  |
| <b>Purification</b>       | Antigen Affinity-purified  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse IL-6 R $\alpha$ Leu20-Glu357<br>Accession # P22272   |
| <b>Conjugate</b>          | Allophycocyanin<br>Excitation Wavelength: 620-650 nm<br>Emission Wavelength: 660-670 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

|                                |   |
|--------------------------------|---|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b><br>● 12 months from date of receipt, 2 to 8 °C as supplied.             |

## BACKGROUND

Interleukin 6 (IL-6) is a multifunctional cytokine that exerts its activities by binding to a high-affinity receptor complex consisting of two membrane glycoproteins: an 80 kDa ligand binding subunit (IL-6 R $\alpha$ /CD126) and a 130 kDa nonligand-binding signal-transducing subunit (gp130/CD130) (1-4). The mouse IL-6 R $\alpha$  cDNA encodes a precursor type I transmembrane protein of 460 amino acids (aa) that contains a 19 aa signal sequence, a 345 aa extracellular ligand binding domain, a 21 aa transmembrane region, and a 75 aa cytoplasmic segment (2). The extracellular segment contains an Ig-like and a fibronectin-type III domain, plus a membrane proximal WSXWS motif. In their extracellular regions, mouse IL-6 R $\alpha$  shares 89%, 51% and 50% aa identity with rat, human and porcine IL-6 R $\alpha$ , respectively. Unlike gp130 that is expressed ubiquitously, the cellular distribution of IL-6 R $\alpha$  is predominantly limited to hepatocytes and leukocyte subpopulations such as monocytes, neutrophils, T and B cells. Soluble IL-6 R $\alpha$  has been found in various body fluids (5). Two soluble receptor isoforms that arise either from proteolytic cleavage of the membrane-bound IL-6 R $\alpha$ , or by alternative mRNA splicing (reported only in human) have been described (6, 7). Soluble IL-6 R $\alpha$  binds IL-6 with an affinity similar to that of the membrane-bound IL-6 R $\alpha$ . More importantly, the soluble IL-6 R $\alpha$ /IL-6 complex is capable of interacting with the membrane-bound gp130 to activate cells that lack an integral membrane IL-6 R $\alpha$ . It has been documented that elevated soluble IL-6 R is associated with numerous diseases including arthritic lesions, multiple myeloma and Crohn's disease (6, 7).

## References:

1. Yamasaki, K. *et al.* (1988) *Science* **241**:825.
2. Sugita, T. *et al.* (1990) *J. Exp. Med.* **171**:2001.
3. Hibi, M. *et al.* (1990) *Cell* **63**:1149.
4. Saito, M. *et al.* (1992) *J. Immunol.* **148**:4066.
5. Novick, D. *et al.* (1989) *J. Exp. Med.* **170**:1409.
6. Jones, S.A. *et al.* (2001) *FASEB J.* **15**:43.
7. Jones, S.A. and S. Rose-John (2002) *Biochim. Biophys. Acta* **1592**:251.