

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-6 R $\alpha$ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human IL-6 R $\alpha$ is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 255821
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse IL-6 R $\alpha$ Leu20-Glu357 Accession # P22272
<b>Conjugate</b>	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
<b>Formulation</b>	Supplied 0.2 mg/mL 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
<b>Flow Cytometry</b>	0.25-1 $\mu$ g/10 <sup>6</sup> cells	Mouse CD3 <sup>+</sup> splenocytes

#### 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> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### 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). Mature mouse IL-6 R $\alpha$  is a type I transmembrane protein of 460 amino acids (aa) that contains 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-6R $\alpha$  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.

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