

#### 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 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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> ● 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). 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.

#### PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.