

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-6 R α in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human IL-6 R α is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 255821
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-6 R α Leu20-Glu357 Accession # P22272
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	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
Flow Cytometry	0.25-1 μ g/10 ⁶ cells	Mouse CD3 ⁺ splenocytes

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. <ul style="list-style-type: none"> 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 α /CD126) and a 130 kDa nonligand-binding signal-transducing subunit (gp130/CD130) (1-4). Mature mouse IL-6 R α 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 α shares 89%, 51% and 50% aa identity with rat, human and porcine IL-6 R α , respectively. Unlike gp130 that is expressed ubiquitously, the cellular distribution of IL-6 R α is predominantly limited to hepatocytes and leukocyte subpopulations such as monocytes, neutrophils, T and B cells. Soluble IL-6R α 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 α , or by alternative mRNA splicing (reported only in human) have been described (6, 7). Soluble IL-6 R α binds IL-6 with an affinity similar to that of the membrane-bound IL-6 R α . More importantly, the soluble IL-6 R α /IL-6 complex is capable of interacting with the membrane-bound gp130 to activate cells that lack an integral membrane IL-6 R α . 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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