

**DESCRIPTION**

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-6 R $\alpha$ in ELISAs and Western blots. In sandwich ELISAs, less than 0.3% cross-reactivity with recombinant mouse (rm) IL-6, recombinant human IL-6 R and rmgp130 is observed.
<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 Accession # P22272
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m filtered solution in PBS.

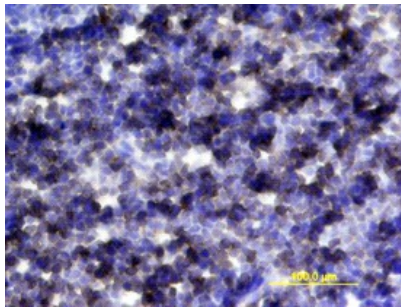
**APPLICATIONS**

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 $\mu$ g/mL	Recombinant Mouse IL-6 R $\alpha$ (Catalog # 1830-SR)
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	Mouse CD3 <sup>+</sup> splenocytes
<b>Immunohistochemistry</b>	5-15 $\mu$ g/mL	See Below
<b>Mouse IL-6 R<math>\alpha</math> Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	0.2-0.8 $\mu$ g/mL	Mouse IL-6 R $\alpha$ Antibody (Catalog # AF1830)
<b>ELISA Detection</b>	0.1-0.4 $\mu$ g/mL	Mouse IL-6 R $\alpha$ Biotinylated Antibody (Catalog # BAF1830)
<b>Standard</b>		Recombinant Mouse IL-6 R $\alpha$ (Catalog # 1830-SR)
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	Measured by its ability to neutralize IL-6-induced proliferation in the T1165.85.2.1 mouse plasmacytoma cell line. Nordan, R. P. and M. Potter (1986) <i>Science</i> <b>233</b> :566. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.2-1 $\mu$ g/mL in the presence of 0.25 ng/mL Recombinant Mouse IL-6.	

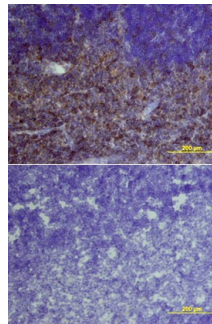
**DATA**

**Immunohistochemistry**

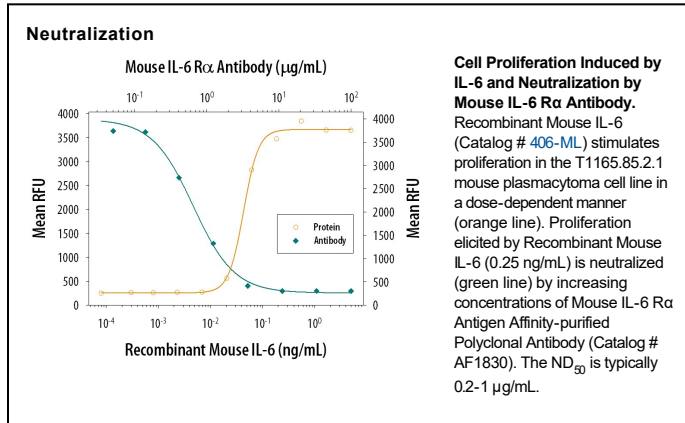


**IL-6 R $\alpha$  in Mouse Thymus.** IL-6 R $\alpha$  was detected in perfusion fixed frozen sections of mouse thymus using Mouse IL-6 R $\alpha$  Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1830) at 15  $\mu$ g/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

**Immunohistochemistry**



**IL-6 R $\alpha$  in Mouse Thymus.** IL-6 R $\alpha$  was detected in perfusion fixed frozen sections of mouse thymus using Mouse IL-6 R $\alpha$  Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1830) at 15  $\mu$ g/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).



#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.  
\*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

#### 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.