

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-6 R α 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.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-6 R α Leu20-Glu357 Accession # P22272
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m filtered solution in PBS.

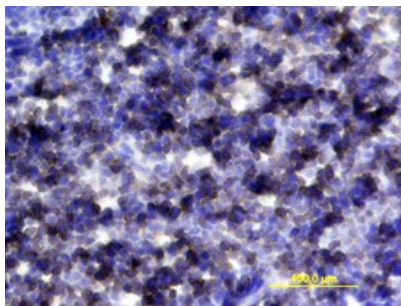
APPLICATIONS

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.

	Recommended Concentration	Sample
Western Blot	0.1 μ g/mL	Recombinant Mouse IL-6 R α (Catalog # 1830-SR)
Flow Cytometry	2.5 μ g/10 ⁶ cells	Mouse CD3 ⁺ splenocytes
Immunohistochemistry	5-15 μ g/mL	See Below
Mouse IL-6 Rα Sandwich Immunoassay		Reagent
ELISA Capture	0.2-0.8 μ g/mL	Mouse IL-6 R α Antibody (Catalog # AF1830)
ELISA Detection	0.1-0.4 μ g/mL	Mouse IL-6 R α Biotinylated Antibody (Catalog # BAF1830)
Standard		Recombinant Mouse IL-6 R α (Catalog # 1830-SR)
Neutralization		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> 233 :566. The Neutralization Dose (ND ₅₀) is typically 0.2-1 μ g/mL in the presence of 0.25 ng/mL Recombinant Mouse IL-6.

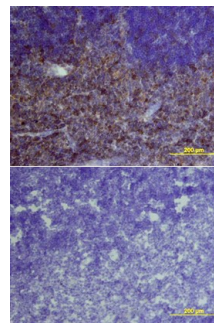
DATA

Immunohistochemistry



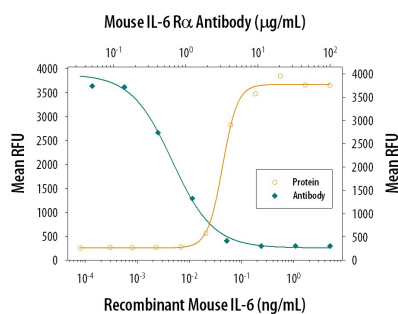
IL-6 R α in Mouse Thymus. IL-6 R α was detected in perfusion fixed frozen sections of mouse thymus using Mouse IL-6 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1830) at 15 μ g/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog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

Immunohistochemistry



IL-6 R α in Mouse Thymus. IL-6 R α was detected in perfusion fixed frozen sections of mouse thymus using Mouse IL-6 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1830) at 15 μ 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](#).

Neutralization



Cell Proliferation Induced by IL-6 and Neutralization by Mouse IL-6 R α Antibody. Recombinant Mouse IL-6 (Catalog # 406-ML) stimulates proliferation in the T1165.85.2.1 mouse plasmacytoma cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-6 (0.25 ng/mL) is neutralized (green line) by increasing concentrations of Mouse IL-6 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1830). The ND₅₀ is typically 0.2-1 μ g/mL.

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. <ul style="list-style-type: none">● 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 α /CD126) and a 130 kDa nonligand-binding signal-transducing subunit (gp130/CD130) (1-4). The mouse IL-6 R α 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 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-6 R 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.