

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-6 R α in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-6 R α Leu20-Asp358 Accession # P08887
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	See Below
Neutralization	Measured by its ability to neutralize IL-6 R α -mediated inhibition of proliferation in the M1 mouse myeloid leukemia cell line. The Neutralization Dose (ND ₅₀) is typically 0.2-0.4 μ g/mL in the presence of 30 ng/mL Recombinant Human IL-6 R α and 30 ng/mL Recombinant Human IL-6.	

DATA

Western Blot

Detection of Recombinant Human IL-6 R α by Western Blot. Western blot shows 5 ng of Recombinant Human IL-6 R α (Catalog # 227-SR), Recombinant Mouse IL-6 R α (Catalog # 1830-SR) and Recombinant Rat IL-6 R. PVDF Membrane was probed with 0.1 μ g/mL of Goat Anti-Human IL-6 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-227-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for IL-6 R α at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Neutralization

IL-6 R α Enhancement of IL-6-dependent Inhibition of Cell Proliferation and Neutralization by Human IL-6 R α Antibody. Recombinant Human IL-6 R α (Catalog # 227-SR) enhances Recombinant Human IL-6 (Catalog # 206-IL) inhibition of proliferation in the M1 mouse myeloid leukemia cell line in a dose-dependent manner (orange line). Enhancement of Recombinant Human IL-6 (30 ng/mL) activity elicited by Recombinant Human IL-6 R α (30 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-6 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-227-NA). The ND₅₀ is typically 0.2-0.4 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

The multi-functional factor interleukin 6 (IL-6) exerts its activities through binding to a high-affinity receptor complex consisting of two membrane glycoproteins: an 80 kDa component receptor that binds IL-6 with low affinity (IL-6 R α) and a signal-transducing component of 130 kDa (gp130) that does not bind IL-6 by itself, but is required for high-affinity binding of IL-6 by the complex. Both components of the receptor complex, IL-6 R α and gp130 have been cloned, sequenced, and expressed (1-4).

A soluble form of the IL-6 R α has been found in the urine of healthy adult humans (5). This soluble receptor apparently arises from proteolytic cleavage of membrane-bound IL-6 R α and is about 50kDa in size. No naturally-occurring mRNA encoding a truncated form of the IL-6 R α has been reported. Soluble forms of human and murine IL-6 Ras have been constructed, however, by insertion of termination codons into the regions of the IL-6 R α cDNAs encoding the external portions of the receptors and prior to the transmembrane domains. These soluble receptors have been expressed in COS-7 and CHO cells and have been shown to bind to IL-6 in solution and to augment the activity of IL-6 as a result of the binding of the IL-6/IL-6 R α complex to membrane-bound gp130 (6, 7).

References:

1. Yamasaki *et al.* (1988) *Science* **241**:825.
2. Baumann *et al.* (1990) *J. Biol. Chem.* **265**:19853.
3. Hibi *et al.* (1990) *Cell* **63**:1149.
4. Schooltink *et al.* (1991) *Eur. J. Biochem.* **277**:659.
5. Novick *et al.* (1989) *J. Exp. Med.* **170**:1409.
6. Yasukawa *et al.* (1990) *J. Biochem.* **108**:673.
7. Saito *et al.* (1991) *J. Immunology* **147**:168.