Human IL-6 Rα Antibody

Monoclonal Mouse IgG_1 Clone # 17506

Catalog Number: MAB227

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-6 R in ELISAs and Western blots. In ELISAs, no cross-reactivity or interference was observed with recombinant human (rh) IL-1α, recombinant mouse (rm) IL-1α, rhIL-1β, rmIL-1β, rhIL-1ra, rhIL-2, rhIL-3, rmIL-3, rhIL-4, rmIL-4, rhIL-5, rmIL-5, rhIL-6, rmIL-6, rhIL-7, rmIL-7, rhIL-8, rhIL-9, rmIL-9, rhIL-10, or rhIL-11.
Source	Monoclonal Mouse IgG_1 Clone # 17506
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human IL-6 R Leu20-Asp339 Accession # P08887
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

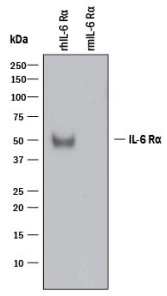
APPLICATIONS

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	1 µg/mL	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
Human IL-6 Rα Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human IL-6 Rα Antibody (Catalog # MAB227)
ELISA Detection	0.1-0.4 µg/mL	Human IL-6 Rα Biotinylated Antibody (Catalog # BAF227)
Standard		Recombinant Human IL-6 Rα (Catalog # 227-SR)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize IL-6 Rα-mediated enhancement of IL-6-dependent Inhibition of cell proliferation in the M1 mouse myeloid leukemia cell line. The Neutralization Dose (ND_{50}) is typically 0.04-0.2 µg/mL in the presence of 30 ng/mL Recombinant Human IL-6 Rα and 30 ng/mL Recombinant Human IL-6.	

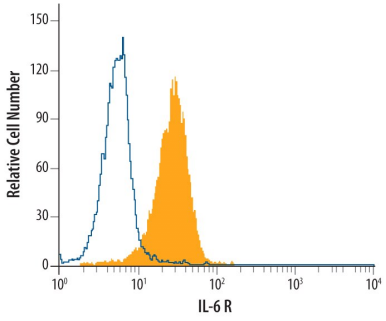
DATA

Western Blot



Detection of Recombinant Human IL-6 Rα by Western Blot. Western blot shows 25 ng of Recombinant Human IL-6 Rα (Catalog # 227-SR) and Recombinant Mouse IL-6 Rα (Catalog # 1830-SR). PVDF Membrane was probed with 1 µg/mL of Mouse Anti-Human IL-6 Rα Monoclonal Antibody (Catalog # MAB227) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for IL-6 Rα at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Flow Cytometry



Detection of IL-6 Rα in U937 Human Cell Line by Flow Cytometry. U937 human histiocytic lymphoma cell line was labeled with Human IL-6 Rα Monoclonal Antibody (Catalog # MAB227, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG $F(ab')_2$ Secondary Antibody (Catalog # F0102B).

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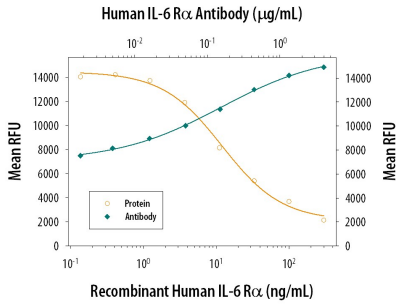
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Human IL-6 Rα Antibody

Monoclonal Mouse IgG_1 Clone # 17506

Catalog Number: MAB227

Neutralization



IL-6 Rα Enhancement of IL-6-dependent Inhibition of Cell Proliferation and Neutralization by Human IL-6 Rα Antibody. Recombinant Human IL-6 Rα (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 Rα (30 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-6 Rα Monoclonal Antibody (Catalog # MAB227). The ND_{50} is typically 0.04-0.2 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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

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 Rα) 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 Rα and gp130 have been cloned, sequenced, and expressed (1-4).

A soluble form of the IL-6 Rα has been found in the urine of healthy adult humans (5). This soluble receptor apparently arises from proteolytic cleavage of membrane-bound IL-6 Rα and is about 50kDa in size. No naturally-occurring mRNA encoding a truncated form of the IL-6 Rα has been reported. Soluble forms of human and murine IL-6 Rαs have been constructed, however, by insertion of termination codons into the regions of the IL-6 Rα 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 Rα complex to membrane-bound gp130 (6, 7).

References:

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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.

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Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956