Mouse IL-6 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-406-NA

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-6 in direct ELISAs and Western blots. In direct ELISAs, approximately 100% cross-reactivity with recombinant rat IL-6 and recombinant cotton rat IL-6 is observed, 5% cross-reactivity with recombinant human IL-6, recombinant porcine IL-6, recombinant canine IL-6, and recombinant feline IL-6 is observed, and less than 1% cross-reactivity with recombinant equine IL-6 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse IL-6 Phe25-Thr211 Accession # P08505
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.

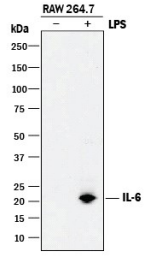
APPLICATIONS

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	0.5 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	Immersion fixed mouse splenocytes treated with PMA and ionomycin
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) Science **233**:566. The Neutralization Dose (ND_{50}) is typically 0.01-0.03 µg/mL in the presence of 0.25 ng/mL Recombinant Mouse IL-6.	

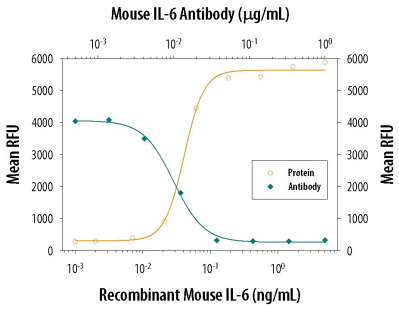
DATA

Western Blot



Detection of Mouse IL-6 by Western Blot. Western blot shows lysates of RAW 264.7 mouse monocyte/macrophage cell line untreated (-) or treated (+) with LPS. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Mouse IL-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-406-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for IL-6 at approximately 22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Neutralization



Cell Proliferation Induced by IL-6 and Neutralization by Mouse IL-6 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 Goat Anti-Mouse IL-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-406-NA). The ND_{50} is typically 0.01-0.03 µg/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.** ● 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.

bio-techne
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

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BACKGROUND

Interleukin 6 (IL-6) is a pleiotropic α-helical cytokine that plays important roles in acute phase reactions, inflammation, hematopoiesis, bone metabolism, and cancer progression. IL-6 activity is central to the transition from acute inflammation to either acquired immunity or chronic inflammatory disease. It is secreted by multiple cell types as a 22 kDa-28 kDa phosphorylated and variably glycosylated molecule (1-4). Mature mouse IL-6 is 187 amino acids (aa) in length and shares 42% and 85% aa sequence identity with human and rat IL-6, respectively (5). Alternate splicing generates several isoforms with internal deletions (6). Mouse IL-6 is equally active on rat cells (7). IL-6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL-6 R) and a signal transducing subunit (gp130). IL-6 binds to IL-6 R, triggering IL-6 R association with gp130 and gp130 dimerization (8). gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM (9). Soluble forms of IL-6 R are generated by both alternate splicing and proteolytic cleavage (9). In a mechanism known as trans-signaling, complexes of soluble IL-6 and IL-6 R elicit responses from gp130-expressing cells that lack cell surface IL-6 R (3). Trans-signaling enables a wider range of cell types to respond to IL-6, as the expression of gp130 is ubiquitous while that of IL-6 R is predominantly restricted to hepatocytes, leukocytes, and lymphocytes (3). Soluble splice forms of gp130 block trans-signaling from IL-6/IL-6 R but not from other cytokines that utilize gp130 as a coreceptor (4, 10).

References:

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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