Mouse IL-6 Antibody

Polyclonal Goat IgG

Catalog Number: AB-406-NA

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-6 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant rat IL-6 is observed and less than 5% cross-reactivity with recombinant human IL-6, recombinant feline IL-6, recombinant bovine IL-6, and recombinant porcine IL-6 is observed.
Source	Polyclonal Goat IgG
Purification	Protein A or G 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.

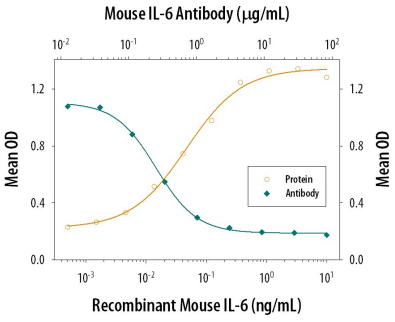
APPLICATIONS

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	Recombinant Mouse IL-6 (Catalog # 406-ML)
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 0.05-0.15 µg/mL in the presence of 0.25 ng/mL Recombinant Mouse IL-6.	

DATA

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 Polyclonal Antibody (Catalog # AB-406-NA). The ND_{50} is typically 0.05-0.15 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.

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BACKGROUND

Interleukin-6 (IL-6) is a pleiotropic, alpha -helical, phosphorylated and variably glycosylated cytokine that plays important roles in the acute phase reaction, inflammation, hematopoiesis, bone metabolism, and cancer progression. Mature mouse IL-6 is 187 amino acids (aa) in length that is typically expressed as a 22-28 kDA molecular weight protein. Mouse IL-6 shares 39% and 85% aa sequence identity with human and rat IL-6, respectively. Alternative splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties. IL-6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL-6 R alpha) and a signal transducing subunit (gp130). IL-6 binds to IL-6 R alpha, triggering IL-6 R alpha association with gp130 and gp130 dimerization. gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM. Soluble forms of IL-6 R alpha are generated by both alternative splicing and proteolytic cleavage. In a mechanism known as trans-signaling, complexes of soluble IL-6 and IL-6 R alpha elicit responses from gp130-expressing cells that lack cell surface IL-6 R alpha. 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 alpha is predominantly restricted to hepatocytes, monocytes, and resting lymphocytes. Soluble splice forms of gp130 block trans-signaling from IL-6/IL-6 R alpha but not from other cytokines that use gp130 as a co-receptor. IL-6, along with TNF-alpha and IL-1, function to drive the acute inflammatory response and the transition from acute inflammation to either acquired immunity or chronic inflammatory disease. When dysregulated, it contributes to chronic inflammation in obesity, insulin resistance, inflammatory bowel disease, arthritis, sepsis, and atherosclerosis. IL-6 can also function as an anti-inflammatory molecule, as in skeletal muscle where it is secreted in response to exercise. In addition, it enhances hematopoietic stem cell proliferation and the differentiation of Th17 cells, memory B cells, and plasma cells.

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