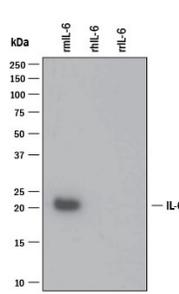
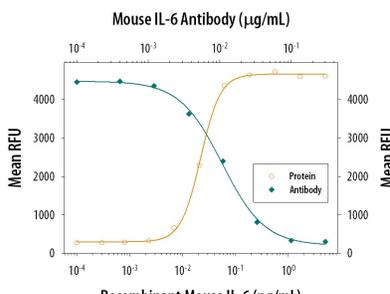


DESCRIPTION	
Species Reactivity	Mouse
Specificity	Detects mouse IL-6 in ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human (rh) IL-6, recombinant porcine IL-6, recombinant rat IL-6, rhIL-11, rhCT-1, or rhCLC is observed.
Source	Monoclonal Rat IgG ₁ Clone # MP5-20F3
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	COS-7 African green monkey SV40 transformed kidney fibroblast-like cell line-derived recombinant mouse IL-6
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Mouse IL-6 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse IL-6 Antibody (Catalog # MAB406)
ELISA Detection Standard	0.1-0.4 µg/mL	Mouse IL-6 Biotinylated Antibody (Catalog # BAF406) 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. <i>et al.</i> (1987) <i>J. Immunol.</i> 139 :813. The Neutralization Dose (ND ₅₀) is typically 0.005-0.025 µg/mL in the presence of 0.25 ng/mL Recombinant Mouse IL-6.	

DATA	
<p>Western Blot</p>  <p>Detection of Recombinant Mouse IL-6 by Western Blot. Western blot shows 25 ng of Recombinant Mouse IL-6 (Catalog # 406-ML), Recombinant Human IL-6 (Catalog # 206-IL) and Recombinant Rat IL-6 (Catalog # 506-RL). PVDF Membrane was probed with 1 µg/mL of Rat Anti-Mouse IL-6 Monoclonal Antibody (Catalog # MAB406) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for IL-6 at approximately 18 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.</p>	<p>Neutralization</p>  <p>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 Mouse IL-6 Monoclonal Antibody (Catalog # MAB406). The ND₅₀ is typically 0.005-0.025 µg/mL.</p>

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. <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 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.