Cotton Rat IL-6 Antibody

Monoclonal Mouse IgG_{2A} Clone # 147135

Catalog Number: MAB561

DESCRIPTION

Species Reactivity	Cotton Rat
Specificity	Detects cotton rat IL-6 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) IL-6, recombinant human (rh) IL-6, recombinant rat (rr) IL-6, recombinant porcine IL-6, rhCLC, rrCNTF, rmCT-1, rmIL-11, rmLIF, and rmOSM is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 147135
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant cotton rat IL-6 Leu25-Asn212 Accession # AAL18819
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.

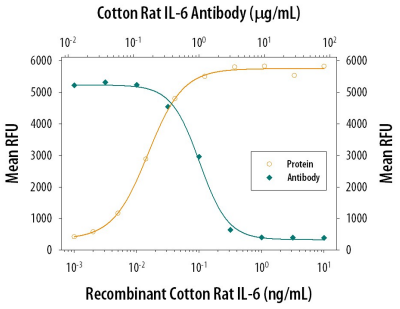
APPLICATIONS

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	Recombinant Cotton Rat IL-6 (Catalog # 561-R6)
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 3-15 µg/mL in the presence of 0.1 ng/mL Recombinant Cotton Rat IL-6.	

DATA

Neutralization



Cell Proliferation Induced by IL-6 and Neutralization by Cotton Rat IL-6 Antibody. Recombinant Cotton Rat IL-6 (Catalog # 561-R6) stimulates proliferation in the T1165.85.2.1 mouse plasmacytoma cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Cotton Rat IL-6 (0.1 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Cotton Rat IL-6 Monoclonal Antibody (Catalog # MAB561). The ND_{50} is typically 3-15 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.

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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 cotton rat IL-6 is 186 amino acids (aa) in length and shares 39%, 70%, and 75% aa sequence identity with human, mouse, and rat IL-6 (5). 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 (6). gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM (7). Soluble forms of IL-6 R are generated by both alternate splicing and proteolytic cleavage (3). 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, 8).

References:

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