Human IL-6 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-206-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-6 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse IL-6 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human IL-6 Pro29-Met212 Accession # P05231
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.

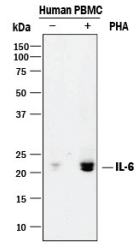
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
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 15-45 ng/mL in the presence of 2.5 ng/mL Recombinant Human IL-6.	

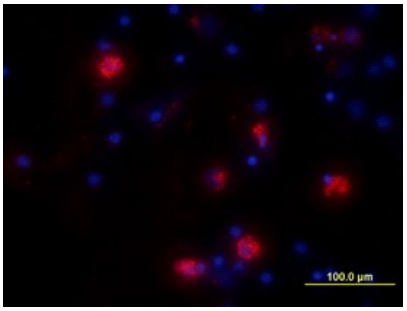
DATA

Western Blot



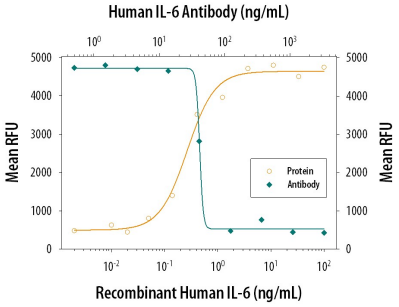
Detection of Human IL-6 by Western Blot. Western blot shows lysates of human peripheral blood mononuclear cells (PBMC) untreated (-) or treated (+) with PHA. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human IL-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-206-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for IL-6 at approximately 20-22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



IL-6 in Human PBMCs. IL-6 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) treated with LPS and monensin using Goat Anti-Human IL-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-206-NA) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counter-stained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Neutralization



Cell Proliferation Induced by IL-6 and Neutralization by Human IL-6 Antibody. Recombinant Human IL-6 (Catalog # 206-IL) stimulates proliferation in the T1165.85.2.1 mouse plasmacytoma cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-6 (2.5 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-206-NA). The ND_{50} is typically 15-45 ng/mL.

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Human IL-6 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF-206-NA

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.

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 essential for the transition from acute inflammation to either acquired immunity or chronic inflammatory disease. It is secreted by multiple cell types as a 22-28 kDa phosphorylated and variably glycosylated molecule (1-4). Mature human IL-6 is 183 amino acids (aa) in length and shares 41% aa sequence identity with mouse and rat IL-6 (5). Alternate splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties (6-9). Human IL-6 is equally active on mouse and rat cells (10). 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 (11). gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM (12). 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, 13).

References:

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