

## DESCRIPTION

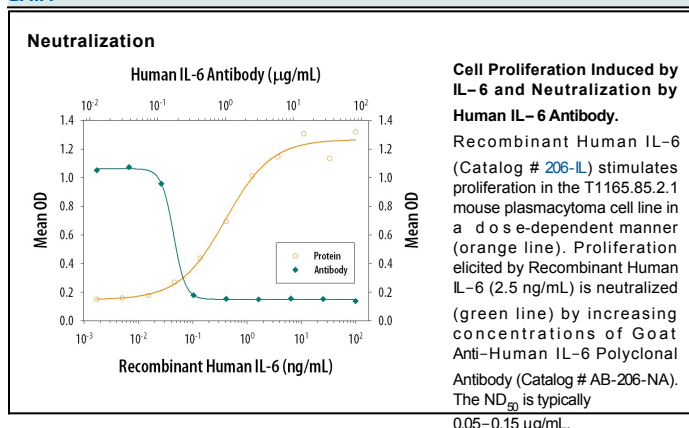
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Human  |
| <b>Specificity</b>        | Detects human IL-6 in direct ELISAs and Western blots. In these formats, less than 5% cross-reactivity with recombinant mouse IL-6, recombinant bovine IL-6, recombinant porcine IL-6, recombinant equine IL-6, recombinant feline IL-6, recombinant rat IL-6, recombinant cotton rat IL-6, recombinant rabbit IL-6, and recombinant viral IL-6 is observed. |
| <b>Source</b>             | Polyclonal Goat IgG  |
| <b>Purification</b>       | Protein A or G purified  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human IL-6<br>Pro29-Met212<br>Accession # P05231   |
| <b>Endotoxin Level</b>    | <0.10 EU per 1 µg of the antibody by the LAL method.   |
| <b>Formulation</b>        | 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  |
|-----------------------|---------------------------|---|
| <b>Western Blot</b>   | 1 µg/mL                   | Recombinant Human IL-6 (Catalog # 206-IL)   |
| <b>Neutralization</b> |                           | 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) <i>Science</i> <b>233</b> :566]. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.05-0.15 µg/mL in the presence of 2.5 ng/mL Recombinant Human IL-6. |

## DATA



## PREPARATION AND STORAGE

|                                |   |
|--------------------------------|---|
| <b>Reconstitution</b>          | Reconstitute at 1 mg/mL in sterile PBS.   |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.   |
| <b>Stability &amp; Storage</b> | <p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

Interleukin 6 (IL-6) is a pleiotropic  $\alpha$ -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. Mature human IL-6 is 183 amino acids (aa) in length and shares 41% aa sequence identity with mouse and rat IL-6. Alternate splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties. Human IL-6 is equally active on mouse and rat cells. 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. 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 are generated by both alternate splicing and proteolytic cleavage. 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. 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. 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.