

Human Interleukin 6 (IL-6)

CATALOG NUMBER: IL-06-010P, 10 µg

Introduction	<p>Interleukin 6 (IL6) is a pleiotropic helical cytokine that plays important roles in acute phase reactions, inflammation, hematopoiesis, bone metabolism, and cancer progression. IL6 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 phosphorylated and variably glycosylated molecule. Mature human IL6 is 183 amino acids (aa) in length and shares 41% aa sequence identity with mouse and rat IL6. Alternate splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties. Human IL6 is equally active on mouse and rat cells. IL6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL6 R) and a signal transducing subunit (gp130). IL 6 binds to IL6R, triggering IL 6R association with gp130 and gp130 dimerization. gp130 is also a component of the receptors for CLC, CNTF, CT1, IL11, IL27, LIF, and OSM. Soluble forms of IL6R are generated by both alternate splicing and proteolytic cleavage. In a mechanism known as transsignaling, complexes of soluble IL6 and IL6R elicit responses from gp130-expressing cells that lack cell surface IL6 R. Transsignaling enables a wider range of cell types to respond to IL6, as the expression of gp130 is ubiquitous, while that of IL6 R is predominantly restricted to hepatocytes, leukocytes, and lymphocytes. Soluble splice forms of gp130 block transsignaling from IL6/IL6R but not from other cytokines that utilize gp130 as a coreceptor.</p>
Description	<p>Recombinant human IL-6 produced in <i>E. coli</i> is a single, non-glycosylated, polypeptide chain containing 184 amino acids, having a predicted molecular mass of approximately 20.9 kDa.</p>
Source	<p><i>E. coli</i>.</p>
Purity	<p>≥ 97% purity (by SDS PAGE and HPLC)</p>
Endotoxin Level	<p>≤ 1 EU/mg, determined by the LAL method</p>
Biological Activity	<p>Measured in a cell proliferation assay using B₉-11; the specific activity shall be not less than 1×10⁷IU/mg</p>
Formulation	<p>Sterile lyophilized powder, in PBS containing 0.1% HAS, pH7.4 Reconstitute with double distilled water at a concentration of no less than 100 µg/ml.</p>
Storage	<p>Stable for 6-months from the date of shipment when kept at -20 °C or -70 °C. Upon reconstitution, it can be stored at 4 °C for at least one month or -20 °C for at least three months. Avoid repeated freeze-thaw cycles.</p>
Usage	<p>This product is produced for LABORATORY RESEARCH USE ONLY.</p>