

PRODUCT DATA SHEET

Human IL-6 ELISA Kit

Description

Interleukin-6 (IL-6), a 26 kDa glycoprotein composing of 184 amino acids, plays a pivotal role in inflammation, immune responses, hematopoiesis, and oncogenesis. While its typical circulating level in healthy adults is less than 5 pg/mL, they escalate rapidly during inflammation. IL-6 is expressed in diverse cell types, including adipocytes, fibroblasts, osteoblasts, neurons, and immune cells. Elevated IL-6 levels are associated with conditions like cardiovascular disease, insulin resistance, type 2 diabetes, asthma, rheumatoid arthritis, and advanced-stage cancer.

As a signaling molecule, IL-6 regulates cell growth and differentiation, particularly in immune responses and acute phase reactions. Secreted by various cell types, including T cells and macrophages, IL-6 exerts its actions through a heterodimeric receptor composed of IL-6R and glycoprotein 130 (gp130). This receptor complex transduces signals, contributing to immune responses, hematopoiesis, bone metabolism, and cancer progression.

IL-6 is not constitutively produced but is induced by factors like cytokines, lipopolysaccharide, or viral infections. Its broad tissue effects vary from inducing growth and inhibition to differentiation, depending on the target cells. Abnormal IL-6 production is implicated in various diseases, and measuring its levels in serum provides diagnostic insights. The multifaceted nature of IL-6 and its involvement in diverse physiological processes make it a central figure in immunology, with significant implications for both research and clinical applications.

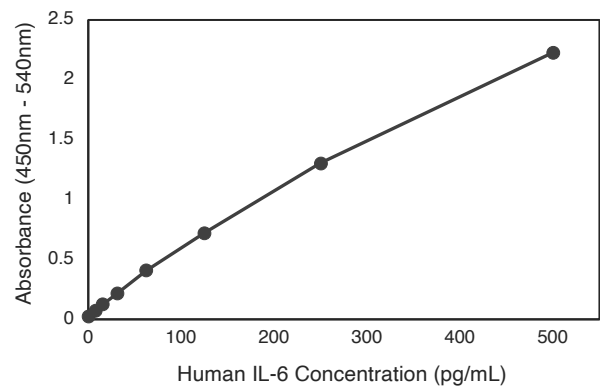
Contents

Pre-coated strip microplate (8X12)	96 wells
10X Wash Buffer	50 mL
1X Assay Diluent	50 mL
1X Detection Diluent	50 mL
Biotinylated anti-Human IL-6	1 vial
IL-6 Standard	1 vial
200X HRP-Streptavidin Conjugate	150 µL
1X One-step TMB Substrate	12 mL
1X Stop Solution	8 mL
Adhesive Plate Covers	1 count

Features

The Human IL-6 solid-phase sandwich ELISA is designed to quantify the target analyte “sandwiched” between a matched antibody pair. The microplate wells supplied with the kit are pre-coated with a target-specific antibody. Upon adding the samples, standards, or controls, the target is captured by the immobilized antibody and subsequently binds to the next added detector antibody.

A secondary enzyme conjugate binds the target attached detector antibody and a substrate solution reacts with the enzyme-antibody-target complex to develop a measurable colored end-product which correlates to the concentration of target analyte present in the original sample. See manual for more information on the assay procedure.



Characteristics

Protein name	IL-6
Alternate names	Interleukin-6, B-cell differentiation factor 2, B-cell stimulatory factor 2, CDF, CTL differentiation factor, Hybridoma growth factor, IFN-beta-2
Species reactivity	Human
Assay format	Solid-phase Sandwich ELISA (quantitative)
Sample type	Serum, Plasma, Cell culture supernatant
Sample volume	100 µL
Assay length	4.5 hrs
Analytical sensitivity	<5 pg/mL
Assay range	7.8 – 500 pg/mL
Intra-assay CV	<8%
Inter-assay CV	<8%
Recovery (%)	Serum: 103.8 Plasma: 95.5 Cell culture media: 94.4
Detection & Instrument	Colorimetric, Microplate Reader
UniProt ID	(Human) P05231

Canada, Europe, Asia, Pacific and Africa

919 Fraser Drive, Unit 11, Burlington, ON Canada L7L 4X8
Tel: 866-344-3954 Fax: 289-204-9100
www.cytodiagnosics.com

United States, Mexico, South and Central America

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Tel: 866-344-3954 Fax: 289-204-9100
www.cytodiagnosics-us.com

Validation

Each manufactured lot of this ELISA kit is quality tested for criteria such as sensitivity, specificity, precision, and lot-to-lot consistency. See manual for more information on validation.

Storage

This product should be stored at 2-8°C. Do not freeze. If stored as specified, the ELISA Plates and reagents are stable for at least 12 months.

Precautions and Disclaimer

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization. Please consult the Material Safety Data Sheet available online at www.cytodiagnosics.com for information regarding hazards and safe handling procedures.

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