

IL-6 Protein, Human, Recombinant

General Information

Synonyms:	BSF2;HSF;IL-6;IFNB2;interleukin 6;HGF;Interleukin-6
Protein Construction:	A DNA sequence encoding the mature form of human IL6 (NP_000591.1) (Val30-Met212) was expressed with an initial Met at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P05231
Molecular Weight:	20.95 kDa (predicted); 19.7 kDa (reducing conditions)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Immobilized Human IL-6 at 2 µg/mL (100 µL/well) can bind Human IL-6R hFc, the EC₅₀ of Human IL-6R hFc is 3.0-10.0 ng/mL.2. Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED₅₀ for this effect is 0.1-0.8 ng/mL.3. Loaded Recombinant Human IL-6R Protein, His Tag on His1K Biosensor, can bind Recombinant Human IL-6 Protein, no Tag with an affinity constant of 0.165 µM as determined in BLI assay.
Purity:	≥ 95 % as determined by SDS-PAGE
Endotoxin:	< 10 EU/mg of the protein.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	<p>It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.</p> <p><small>Actual storage temperature shall be subject to the COA.</small></p>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin-6 (IL-6) is a multifunctional α -helical cytokine that regulates cell growth and differentiation of various tissues, which is known particularly for its role in the immune response and acute phase reactions. IL-6 protein is secreted by a variety of cell types including T cells and macrophages as a phosphorylated and variably glycosylated molecule. It exerts actions through its heterodimeric receptor composed of IL-6R that lacks the tyrosine/kinase domain and binds IL-6 with low affinity, and ubiquitously expressed glycoprotein 130 (gp130) that binds the IL-6. IL-6R complex with high affinity and thus transduces signals. IL-6 is also involved in hematopoiesis, bone metabolism, and cancer progression, and has been defined as an essential role in directing the transition from innate to acquired immunity. Cancer Immunotherapy/Immune Checkpoint/Immunotherapy/Targeted Therapy

Reference

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Dinh W, et al. (2009) Elevated plasma levels of TNF-alpha and interleukin-6 in patients with diastolic dysfunction and glucose metabolism disorders. *Cardiovasc Diabetol.* 8:58.

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