

IL-6 Protein, Rat, Recombinant

General Information

Synonyms:	interleukin 6
Protein Construction:	A DNA sequence encoding the rat IL6 (NP_036721.1)(Phe25-Thr211) was expressed and purified with an initial Met. Predicted N terminal: Met
Species:	Rat
Expression Host:	E. coli
Accession:	A6KJN3
Molecular Weight:	21.9 kDa (predicted); 22 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using T1165 mouse plasmacytoma cells. The ED50 for this effect is typically 1-6 ng/ml.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 40% acetonitrile, 0.1% TFA. 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:

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.

Actual storage temperature shall be subject to the COA.

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

Heinrich PC, et al. (2003). Principles of interleukin-6-type cytokine signalling and its regulation. *Biochem J.* 374: 1-20.

Rose-John S, et al. (2007) The IL-6/sIL-6R complex as a novel target for therapeutic approaches. *Expert Opin Ther Targets.* 11(5): 613-24.

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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