

GMP IL-6 Protein, Human

Cat. No.:	HY-P7044G
Synonyms:	Interleukin-6; IL-6; B-Cell Stimulatory Factor 2; BSF-2; CTL Differentiation Factor; CDF; Hybridoma Growth Factor; Interferon Beta-2; IFN-Beta-2; IL6; IFNB2
Species:	Human
Source:	E. coli
Accession:	P05231 (V30-M212)
Gene ID:	3569
Molecular Weight:	Approximately 20.0 kDa

PROPERTIES

AA Sequence	<p>V P P G E D S K D V A A P H R Q P L T S S E R I D K Q I R Y I L D G I S A L R K</p> <p>E T C N K S N M C E S S K E A L A E N N L N L P K M A E K D G C F Q S G F N E E</p> <p>T C L V K I I T G L L E F E V Y L E Y L Q N R F E S S E E Q A R A V Q M S T K V</p> <p>L I Q F L Q K K A K N L D A I T T P D P T T N A S L L T K L Q A Q N Q W L Q D M</p> <p>T T H L I L R S F K E F L Q S S L R A L R Q M</p>
Biological Activity	The specific activity is > 2×10 ⁷ U/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<0.05 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in injection water.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>GMP IL-6 Protein, a versatile cytokine, performs various biological functions in immunity, tissue regeneration, and metabolism. Upon binding to IL6R, the resulting complex associates with the signaling subunit IL6ST/gp130, triggering the intracellular IL6-signaling pathway. Its interaction with membrane-bound IL6R and IL6ST stimulates 'classic signaling,' while the binding of IL6 and soluble IL6R to IL6ST induces 'trans-signaling.' Moreover, 'cluster signaling' occurs when membrane-bound IL6:IL6R complexes on transmitter cells activate IL6ST receptors on neighboring receiver cells. IL-6 serves as a potent inducer of the acute phase response, rapidly mobilizing host defenses during infection and tissue injury, although excessive</p>
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IL6 synthesis is implicated in disease pathology. In the innate immune response, IL-6 is synthesized by myeloid cells, such as macrophages and dendritic cells, upon recognizing pathogens through toll-like receptors at the infection or tissue injury site. In the adaptive immune response, IL-6 is essential for B-cell differentiation into immunoglobulin-secreting cells and plays a major role in the differentiation of CD4(+) T cell subsets. It is a crucial factor in the development of T follicular helper (Tfh) cells necessary for germinal-center formation and is required to drive naive CD4(+) T cells to the Th17 lineage. Additionally, IL-6 is essential for the proliferation of myeloma cells and the survival of plasmablast cells.

Caution: Product has not been fully validated for medical applications. For research use only.

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