

Animal-Free IL-6 Protein, Mouse (His)

Cat. No.:	HY-P700216AF
Synonyms:	IFN- β 2; B-Cell Differentiation Factor (BCDF); BSF-2; HPGF; HSF; MGI-2
Species:	Mouse
Source:	E. coli
Accession:	P08505 (F25-T211)
Gene ID:	16193
Molecular Weight:	Approximately 22.7 kDa

PROPERTIES

AA Sequence	<p>M F P T S Q V R R G D F T E D T T P N R P V Y T T S Q V G G L I T H V L W E I V</p> <p>E M R K E L C N G N S D C M N N D D A L A E N N L K L P E I Q R N D G C Y Q T G</p> <p>Y N Q E I C L L K I S S G L L E Y H S Y L E Y M K N N L K D N K K D K A R V L Q</p> <p>R D T E T L I H I F N Q E V K D L H K I V L P T P I S N A L L T D K L E S Q K E</p> <p>W L R T K T I Q F I L K S L E E F L K V T L R S T R Q T</p>
Biological Activity	Measure by its ability to induce proliferation in 7TD1 cells. The ED ₅₀ for this effect is <0.01 ng/mL. The specific activity of recombinant mouse IL-6 is approximately >1x10 ⁸ IU/mg
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0.
Endotoxin Level	<0.1 EU per 1 μ g of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
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	IL-6 Protein, a versatile cytokine with a spectrum of biological functions spanning immunity, tissue regeneration, and metabolism, intricately engages in a multifaceted signaling network. Upon binding to its receptor IL6R, the resultant complex associates with the signaling subunit IL6ST/gp130, initiating the IL6-signaling pathway. The IL-6 system exhibits diverse signaling modes: 'classic signaling' when interacting with membrane-bound IL6R and IL6ST, 'trans-signaling' with soluble IL6R, and 'cluster signaling' involving cell-to-cell communication. Functionally, IL-6 serves as a potent inducer of the
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acute phase response, swiftly mobilizing host defenses during infection and tissue injury. In the innate immune response, myeloid cells like macrophages and dendritic cells synthesize IL-6 in response to pathogen recognition through toll-like receptors. Additionally, IL-6 plays a pivotal role in the adaptive immune response, being indispensable for B-cell differentiation, especially in the generation of immunoglobulin-secreting cells. Furthermore, IL-6 is a key factor driving the differentiation of CD4(+) T cell subsets, crucial for the development of T follicular helper (Tfh) cells and promoting effective antibody responses. Its involvement extends to the induction of Tfh cells in tandem with IL21 and steering the proliferation of myeloma cells and survival of plasmablast cells. This comprehensive functionality underscores IL-6 as a central player in immune modulation and homeostasis.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA