

# Recombinant Human IL-6 Protein

Catalog Number: GMP-TL512

## Product Name

Generic Name	Recombinant Human IL-6 Protein
Synonym	IL6, Interleukin-6, BSF2, HSF, IFNB2

## Product Information

Protein sequence	A DNA sequence encoding the human IL-6 (NP_000591.1: V30-M212) was expressed with a His-tag at the C-terminus.
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE
Activity	Determined by the dose-dependent stimulation of the proliferation of TF-1 cells. The expected ED <sub>50</sub> for this effect is ≤ 1 ng/mL.
Endotoxin Level	< 0.1 EU per µg of the protein as determined by the LAL method.
Molecular Mass	The Recombinant Human IL-6 Protein predicts a molecular mass of 21.6 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization. 24 months at 2 °C to 8 °C in lyophilized state. 6 months at -20 °C under sterile conditions after reconstitution.
Stability & Storage	12 months at -80 °C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 µg/mL. Avoid repeated freeze-thaw cycles.

## Background

Interleukin 6 (IL-6) is produced by fibroblasts, monocytes, macrophages, T lymphocytes, B lymphocytes, epithelial cells, keratinocytes and various tumor cells. IL-1, TNF- $\alpha$ , PDGF, viral infection, double stranded RNA, and cAMP can all induce normal cells to produce IL-6. IL-6 can stimulate the proliferation, differentiation of immune responses and improve immune cell functions. IL-6R is widely expressed on the surface of activated B cells, quiescent T cells, NK cells, myeloma cells, hepatocytes, and myeloid leukemia cells. The main role of IL-6 is to promote the proliferation and differentiation of B cells and the secretion of antibodies. It also has extensive effects on liver cells, T cells, neural tissue, and hematopoietic system. IL-6 also has anti-tumor effects and can directly or indirectly enhance the tumoricidal activity of NK cells and CTL.

## References

1. Ferguson-Smith AC, Chen YF, Newman MS, May LT, Sehgal PB, Ruddle FH (1988) Regional localization of the interferon-beta 2/B-cell stimulatory factor 2/hepatocyte stimulating factor gene to human chromosome 7p15-p21. *Genomics* 2 (3): 203–8. doi:10.1016/0888-7543(88)90003-1. PMID 3294161.
2. Van der Poll T, Keogh CV, Guirao X, Buurman WA, Kopf M, Lowry SF (1997) Interleukin-6 gene-deficient mice show impaired defense against pneumococcal pneumonia. *The Journal of Infectious Diseases* 176 (2): 439–44. doi:10.1086/514062. PMID 9237710.
3. Banks WA, Kastin AJ, Gutierrez EG (1994) Penetration of interleukin-6 across the murine blood-brain barrier. *Neuroscience Letters* 179 (1-2): 53–6. doi:10.1016/0304-3940(94)90933-4. PMID 7845624.