

Animal-Free IL-10 Protein, Human (His)

Cat. No.:	HY-P700097AF
Synonyms:	B-TCGF; CSIF; TGIF
Species:	Human
Source:	E. coli
Accession:	P22301 (S19-N178)
Gene ID:	3586
Molecular Weight:	Approximately 19.6 kDa

PROPERTIES

AA Sequence	<p>S P G Q G T Q S E N S C T H F P G N L P N M L R D L R D A F S R V K T F F Q M K</p> <p>D Q L D N L L L K E S L L E D F K G Y L G C Q A L S E M I Q F Y L E E V M P Q A</p> <p>E N Q D P D I K A H V N S L G E N L K T L R L R L R R C H R F L P C E N K S K A</p> <p>V E Q V K N A F N K L Q E K G I Y K A M S E F D I F I N Y I E A Y M T M K I R N</p>
Biological Activity	Measure by its ability to induce MC/9 - 2 cells proliferation. The ED ₅₀ for this effect is <1 ng/mL. The specific activity of recombinant human IL-10 is approximately >1 x10 ⁶ IU/ mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0, trehalose.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years from date of receipt. 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-10 Protein, a key immune regulatory cytokine, exerts potent anti-inflammatory effects to prevent excessive tissue damage caused by inflammation. It engages its heterotetrameric receptor, composed of IL10RA and IL10RB, triggering JAK1 and STAT2-mediated phosphorylation of STAT3. This leads to STAT3 translocation into the nucleus, driving the expression of anti-inflammatory mediators. IL-10 Protein targets antigen-presenting cells like macrophages and monocytes, inhibiting the release of pro-inflammatory cytokines. It also hinders antigen presentation by reducing MHC-class II and co-stimulatory
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molecule expression, thereby dampening T cell activation. Additionally, it reprograms metabolic pathways, including mTOR signaling, to control the inflammatory response of macrophages. The protein forms homodimers and interacts with IL10RA and IL10RB.

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

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