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

Cat. No.:	HY-P700244AF
Synonyms:	Interleukin-10; IL10; IL-10; Cytokine synthesis inhibitory factor; CSIF
Species:	Pig
Source:	E. coli
Accession:	Q29055 (S19-N175)
Gene ID:	397106
Molecular Weight:	Approximately 19.1 kDa

PROPERTIES

AA Sequence	M S I K S E N S C I H F P T S L P H M L R E L R A A F G P V K S F F Q T K D Q M G D L L L T G S L L E D F K G Y L G C Q A L S E M I Q F Y L E D V M P K A E S D G E D I K E H V N S L G E K L K T L R L R L R R C H Q F L P C E N K S K A V E E V K S A F S K L Q E R G V Y K A M G E F D I F I N Y I E A Y M T M K M R K N
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH7.4.
Endotoxin Level	<0.01 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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-10, a major immune regulatory cytokine, plays a pivotal role in modulating the immune system by exerting profound anti-inflammatory functions, effectively limiting excessive tissue disruption caused by inflammation. Mechanistically, IL-10 binds to its heterotetrameric receptor, composed of IL10RA and IL10RB, initiating JAK1 and STAT2-mediated phosphorylation of STAT3. Subsequently, phosphorylated STAT3 translocates to the nucleus, driving the expression of anti-inflammatory mediators. IL-10 specifically targets antigen-presenting cells (APCs), such as macrophages and monocytes, curbing their release of pro-inflammatory cytokines, including GM-CSF, G-CSF, IL-1 alpha, IL-1 beta, IL-6, IL-8, and TNF-alpha. Additionally, IL-10 interferes with antigen presentation by diminishing the expression of MHC-class II and co-stimulatory molecules, thereby hindering their capacity to induce T cell activation. Moreover, IL-10 maintains control over the inflammatory response of macrophages by reprogramming essential metabolic pathways, including mTOR signaling.

	Structurally, IL-10 forms a homodimer and engages with IL10RA and IL10RB in its regulatory functions.

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

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