IL-10 Protein, Pig

Cat. No.:	HY-P73154
Synonyms:	Interleukin-10 receptor subunit beta; IL-10RB; CRF2-4; IL-10R2; CDw210b
Species:	Pig
Source:	E. coli
Accession:	Q29055 (S19-N175)
Gene ID:	397106
Molecular Weight:	Approximately 18.0 kDa

PROPERTIES

Biological Activity	1.Measured by its binding ability in a functional ELISA. Immobilized IL-10 Protein, Pig at 2 μg/mL (100 μl/well) can bind Rhesus IL10RA-hFc and the EC_{50} is 25-100 ng/mL. 2.Measured in a cell proliferation assay using MC/9-2 mouse mast cells and the ED_{50} is typically 1-5 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by 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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