

IL-10R alpha Protein, Rhesus Macaque (HEK293, His)

Cat. No.:	HY-P76988
Synonyms:	Interleukin-10 receptor subunit alpha; IL-10RA; CDw210a; IL-10R1; CD210
Species:	Rhesus Macaque
Source:	HEK293
Accession:	XP_001092736 (F29-N245)
Gene ID:	704383
Molecular Weight:	Approximately 35-50 kDa.

PROPERTIES

AA Sequence	<pre> F F S P G T E L P S P A L L R Y G T G R W V R A V D G S R H S L G K I Q P P R P K F T H K K V K H E N K E E C V S L T R Q P S V W F E A E F F N S I S N C S Q A L N W T V T N T R F S M A P A N D T Y E S F S L L T S G E V G Y F T V T N H H I L H W T P I P S Y D L T A V T L D L D E V T L T V G S I F S H F R E Y E I E F C V Q V K P S V N Q S E S T C Y E V L Y R S N G Y W A R V K L E I H N G F I A I R K V P G N F T T S R T N K G M W S </pre>
Biological Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-10 is immobilized at 5 µg/mL (100 µL/well) can bind Recombinant Rhesus Macaque IL-10R alpha. The ED ₅₀ for this effect is 17.16 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by 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. 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-10R alpha is a ligand-binding subunit of the type II cytokine receptor consisting of 2 alpha and 2 beta subunits and is expressed primarily in hematopoietic cells such as B cells, T cells, NK cells, monocytes and macrophages, but not in non-
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hematopoietic cells such as fibroblasts or endothelial cells^[1].

IL-10R alpha binds to the ligand and leads to a conformational change in the beta subunit, which results in the beta subunit also binding IL-10, forming a heterotetramer that leads to activation of the signalling complex of JAK1 and TYK2 kinases. In this case, JAK1 binds to the alpha subunit and TYK2 binds to the beta subunit, phosphorylating specific tyrosine residues in the intracellular structural domain of IL10R alpha. This further leads to phosphorylation and activation of the transcription factor STAT3, which dimerises STAT3 monomers into the nucleus and induces transcriptional expression of the target gene ^[1].

IL-10R alpha is involved in suppressing inflammatory responses and Th 1 cell-mediated immune responses, and also regulates neutrophil functional responses. In addition, IL10R alpha-mediated activation of STAT3 also inhibits starvation-induced autophagy^[2].

REFERENCES

[1]. Dror S Shouval, et al. Interleukin 10 receptor signaling: master regulator of intestinal mucosal homeostasis in mice and humans. *Adv Immunol.* 2014;122:177-210.

[2]. J Shi, et al. IL10 inhibits starvation-induced autophagy in hypertrophic scar fibroblasts via cross talk between the IL10-IL10R-STAT3 and IL10-AKT-mTOR pathways. *Cell Death Dis.* 2016 Mar 10;7(3):e2133.

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

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