

## IL-10 Protein, Rat (CHO)

Cat. No.:	HY-P7098A
Synonyms:	rRtIL-10; CSIF
Species:	Rat
Source:	CHO
Accession:	P29456 (S19-N178)
Gene ID:	25325
Molecular Weight:	8-22 kDa

### PROPERTIES

<b>AA Sequence</b>	<p>           S K G H S I R G D N    N C T H F P V S Q T    H M L R E L R A A F    S Q V K T F F Q K K            D Q L D N I L L T D    S L L Q D F K G Y L    G C Q A L S E M I K    F Y L V E V M P Q A            E N H G P E I K E H    L N S L G E K L K T    L W I Q L R R C H R    F L P C E N K S K A            V E Q V K N D F N K    L Q D K G V Y K A M    N E F D I F I N C I    E A Y V T L K M K N         </p>
<b>Biological Activity</b>	The ED <sub>50</sub> is <8 µg /mL as measured by C6 cells.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized after extensive dialysis against PBS.
<b>Endotoxin Level</b>	<0.2 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>Interleukin-10 is an anti-inflammatory Th1 immunosuppressive cytokine, the active form of which is a non-covalent homodimer, and which exhibits species-specificity both with respect to structure and biological activity. The rat homologue of IL-10 shares 73% identity with human IL-10 at the amino-acid sequence level, and has, in addition to the two disulphide bonds present in human IL-10, a fifth, unpaired cysteine (cys-149). Preparation of rat IL-10 by bacterial expression followed by solubilisation and refolding in a glutathione redox system, results in a molecule in which cys-149 is almost entirely oxidised, existing either as disulphide dimer or as a mixed disulphide with glutathione, and which has less than 1% of the</p>
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activity of the native (cys-149-SH) form of the molecule. Site directed mutagenesis of rat IL-10 to replace cys-149 with tyrosine produces a molecule which readily adopts the active conformation upon solubilisation and refolding, and which is recoverable in good yield from bacterial expression systems. Comparison of the biological activities of rat IL-10tyr149 and commercial rat IL-10 preparations confirms that the activity of native-sequence rat IL-10 is either reduced or absent. It is proposed therefore that the biosynthetic analogue ratIL-10tyr149 is a more useful molecule to investigate the biological actions of IL-10 in the rat<sup>[1]</sup>.

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## REFERENCES

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[1]. Ball C, et al. Rat interleukin-10: production and characterisation of biologically active protein in a recombinantbacterial expression system. Eur Cytokine Netw. 2001 Mar;12(1):187-93.

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

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