

IL-10 Protein, Rat, Recombinant

General Information

Synonyms:	interleukin 10
Protein Construction:	A DNA sequence encoding the rat IL10 (NP_036986.2) (Ser19-Asn178) was expressed and purified with an initial Met. Predicted N terminal: Met
Species:	Rat
Expression Host:	E. coli
Accession:	P29456
Molecular Weight:	18.6 kDa (predicted); 18 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Supplied as sterile PBS, 10% glycerol, pH7.4.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	Proteins are shipped with blue ice.

Protein Background

IL-10 is an anti-inflammatory cytokine that belongs to the IL-10 family. It is produced by a variety of cell lines, including T-cells, macrophages, mast cells, and other cell types, while it is produced primarily by monocytes and to a lesser extent by lymphocytes. IL-10 is mainly expressed in monocytes and Type 2 T helper cells (TH2), mast cells, CD4+CD25+Foxp3+ regulatory T cells, and also in a certain subset of activated T cells and B cells. IL-10 has pleiotropic effects in immunoregulation and inflammation. It down-regulates the expression of Th1 cytokines, MHC class II Ags, and costimulatory molecules on macrophages. It also enhances B cell survival, proliferation, and antibody production. IL-10 can block NF-kappa B activity and is involved in the regulation of the JAK-STAT signaling pathway. Knockout studies in mice suggested the function of this cytokine as an essential

immunoregulator in the intestinal tract. The importance of interleukin 10 for counteracting excessive immunity in the human body is revealed by the fact that patients with Crohn's disease react favorably towards treatment with bacteria producing recombinant IL-10. IL-10 inhibits the synthesis of some cytokines, including IFN-gamma, IL-2, IL-3, TNF, and GM-CSF produced by activated macrophages and by helper T-cells. It also displays a potent ability to suppress the antigen-presentation capacity of antigen-presenting cells. However, it is also stimulatory towards certain T cells and mast cells and stimulates B cell maturation and antibody production. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

- Arimoto T, et al. (2007) Interleukin-10 protects against inflammation-mediated degeneration of dopaminergic neurons in substantia nigra. *Neurobiol Aging*. 28(6):894-906.
- HAN X, et al. (2010) Effect of cobalt protoporphyrin on hyperexpression of heme oxygenase-1 and secretion of IL-10 in rat bone marrow mesenchymal stem cells. *Zhongguo Shi Yan Xue Ye Xue Za Zhi*. 18(5):1297-301.
- Cui QQ, et al. (2011) Expression of RhoA in the lung tissue of acute lung injury rats and the influence of RhoA on the expression of IL-8 and IL-10. *Xi Bao Yu Fen Zi Mian Yi Xue Za Zhi*. 77(7): 1436-41.

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