Human IL10 / Interleukin-10 Protein

Catalog Number: 10947-HNAE

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CSIF; GVHDS; IL-10; IL10A; Interleukin-10; TGIF

Protein Construction:

A DNA sequence encoding human IL10 (NP_000563.1) (Ser19-Asn178) was expressed.

Source: Human

Expression Host: E. coli

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.

Bio Activity:

1. Immobilized Recombinant Human IL10 / Interleukin-10 Protein (Cat: 10947-HNAE) at 2 μg/mL (100 μL/well) can bind Recombinant Rhesus IL10RA Protein (Fc Tag) (Cat: 90125-C02H), the EC50 is 100-300 ng/mL.
2. Measured in a cell proliferation assay using MC/9-2 mouse mast cells. The ED50 for this effect is typically 1-8 ng/mL.

Endotoxin:

< 20 EU per mg protein.

Predicted N terminal: Met

Molecular Mass:

The recombinant human IL10 consists of 161 amino acids and predicts a molecular mass of 18.78 KDa. It migrates as an approximately 18 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

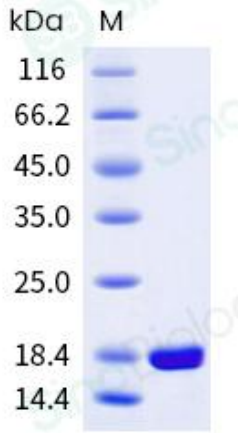
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1.Arimoto T, et al. (2007) Interleukin-10 protects against inflammation-mediated degeneration of dopaminergic neurons in substantia nigra. Neurobiol Aging. 28(6):894-906.
2.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.
3.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.