Human IL2 Protein

Catalog Number: 11848-HNAE2

General Information

Gene Name Synonym:

IL-2,Interleukin-2,lymphokine,TCGF

Protein Construction:

A DNA sequence encoding the mature form of human IL2 (P60568-1) (Ala21-Thr153) was expressed and purified with an initial Met.

Source: Human

Expression Host: E. coli

QC Testing

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

Bio Activity：

1.Measured in a cell proliferation assay using CTLL2. The ED50 for this effect is typically 1-8 ng/mL.
2.Loaded Recombinant Rhesus IL-2R beta/CD122 Protein, His & AVI Tag, Biotinylated (Cat. No. 90328-K49H-B) on SA Biosensor, can bind Recombinant Human IL-2 Protein, no Tag (Cat. No. 11848-HNAE2) with an affinity constant of 0.508 μM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).
3.Loaded Recombinant Human IL-2R beta / CD122 Protein, His Tag (Cat. No. 10696-H08H) on Ni-NTA Biosensor, can bind Recombinant Human IL-2 Protein (Cat. No. 11848-HNAE2) with an affinity constant of 0.313 μM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).
4.Loaded Recombinant Human IL-2R beta/CD122 Protein, His Tag, Biotinylated, (Cat. No. 10696-H27H-B) on SA Biosensor, can bind Recombinant Human IL-2 Protein (Cat. No. 11848-HNAE2) with an affinity constant of 0.234 μM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).
5.Recombinant Human IL-2R beta/CD122 Protein, mFc Tag (Cat. No. 10696-H05H) captured on CM5 chip via anti-mouse antibodies surface can bind Recombinant Human IL-2 Protein (Cat. No. 11848-HNAE2) with an affinity constant of 0.460 μM as determined in an SPR assay (Biacore T200) (Routinely tested).
6.Loaded Biotinylated Recombinant Human IL-2Rβ & IL-2Rγ Protein, Flag & AVI & His Tag (Cat. No. CT108-H2549H1-B) on SA Biosensor, can bind Recombinant Human IL-2 Protein (Cat. No. 11848-HNAE2) with an affinity constant of 2.190 nM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).

Endotoxin:

< 5 EU per mg of the protein.

Predicted N terminal: Met

Molecular Mass:

The recombinant human IL-2 consists of 134 amino acids and predicts a molecular mass of 15.55 kDa.

Formulation:

Lyophilized from sterile 20mM HAc-NaAc+0.004% Tween-80 pH 4.0

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℃.

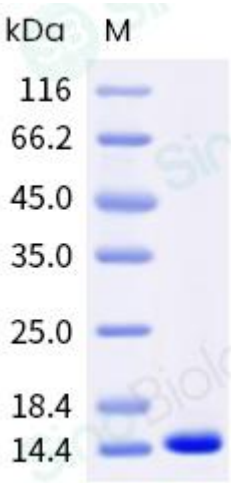
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



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Protein Description

Interleukin-2, also known as a T-cell growth factor, TCGF, Aldesleukin, and IL2, is a secreted protein that belongs to the IL-2 family. Interleukin-2 / IL-2 was the first interleukin molecule to be discovered. Interleukin-2 / IL-2 molecule was first purified to homogeneity by immunoaffinity chromatography by Kendall Smith and his team at Dartmouth Medical School. Interleukin-2 / IL-2 was also the first cytokine shown to mediate its effects via a specific IL-2 receptor, and it was also the first interleukin to be cloned and expressed from a complementary DNA (cDNA) library. Interleukin-2 / IL-2 was designated number 2 because Smith's data at the time indicated that IL-1, produced by macrophages, facilitates IL-2 production by T lymphocytes (T cells). Interleukin-2 / IL-2 is produced by T-cells in response to antigenic or mitogenic stimulation, this protein is required for T-cell proliferation and other activities crucial to regulation of the immune response. Interleukin-2 / IL-2 is normally produced by the body during an immune response. When environmental substances (molecules or microbes) gain access to the body, these substances (termed antigens) are recognized as foreign by antigen receptors that are expressed on the surface of lymphocytes. Antigen binding to the T cell receptor (TCR) stimulates the secretion of Interleukin-2 / IL-2 and the expression of IL-2 receptors IL-2R. The IL-2 / IL-2R interaction then stimulates the growth, differentiation, and survival of antigen-selected cytotoxic T cells via the activation of the expression of specific genes. Interleukin-2 / IL-2 can stimulate B-cells, monocytes, lymphokine-activated killer cells, natural killer cells, and glioma cells. The World Reference Standard for Interleukin-2 / IL-2 is produced by the National Institute of Biological Standards and Control in the UK. A recombinant form of Interleukin-2 / IL-2 for clinical use is manufactured by Chiron Corporation with the brand name Proleukin. It has been approved by the Food and Drug Administration (FDA) for the treatment of cancers (malignant melanoma, renal cell cancer), and is in clinical trials for the treatment of chronic viral infections, and as a booster (adjuvant) for vaccines. The use of Interleukin-2 / IL-2 in HIV therapy is ineffective.

References

1.Smith KA, et al.,1980, J. Exp. Med.151 (6): 1551-6. 2.Smith KA, et al.,1980, Nature. 287 (5785): 853-5. 3.Taniguchi T, et al.,1983, Nature. 302 (5906): 305.