Canine Interleukin-2 / IL-2 Protein (147 Cys/Ser)

Catalog Number: 70014-DNAE

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

IL2

Protein Construction:

A DNA sequence encoding the mature form of canine IL2 (Q29416) (Ala 21-Thr 155, 147Cys/Ser) was expressed, with an initial Met at the N-terminus.

Source: Canine

Expression Host: E. coli

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio-Activity

1. Measured by its binding ability in a functional ELISA.
2. Immobilized recombinant Canine IL2 (cat:70014-DNAE) at 10 μg/mL can bind recombinant human IL2Ra-Fc (Cat:10165-H02H) with a linear range of 0.3125-20 μg/ml.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant canine IL2 consists of 136 amino acids and has a calculated molecular mass of 15.6 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 15 kDa band.

Formulation:

Lyophilized from sterile PBS, pH 7.4

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

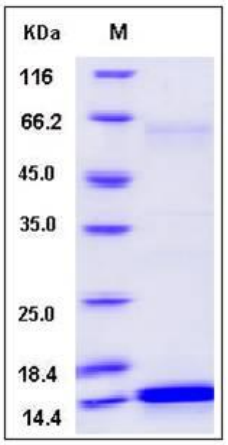
Usage Guide

Storage:

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.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Interleukin-2, also known as T-cell growth factor, TCGF, Aldesleukin and IL2, is a secreted protein which belongs to theIL-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 bymacrophages, 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 has been found to be 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.
4. Cantrell DA, et al.,1984, Science.224 (4655): 1312-6.
5. Smith KA, et al.,1988, Science. 240 (4856): 1169-76.
6. Wang X. et al., 2005, Science. 310: 1159-63.
7. Stauber D.J. et al., 2006, Proc. Natl. Acad. Sci. USA. 103: 2788-93.