

# Canine IL4 / Interleukin-4 Protein

Catalog Number: 70021-DNAE



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

IL4

### Protein Construction:

A DNA sequence encoding the canine IL4 (O77762) (His 25-His 132) was expressed, with an initial Met at the N-terminus.

**Source:** Canine

**Expression Host:** E. coli

## QC Testing

**Purity:** > 96 % as determined by SDS-PAGE

### Bio Activity:

Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED<sub>50</sub> for this effect is typically 5-30 ng/ml.

### Endotoxin:

Please contact us for more information.

### Stability:

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

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant canine IL4 consists of 109 amino acids and has a calculated molecular mass of 13 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 12-14 kDa band.

### 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

### Storage:

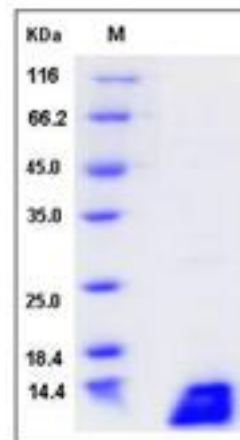
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Interleukin-4, also known as IL4, is a secreted protein which belongs to the IL-4 / IL-13 family. Interleukin-4 / IL4 has many biological roles, including the stimulation of activated B-cell and T-cell proliferation. It enhances both secretion and cell surface expression of IgE and IgG1. Interleukin-4 / IL4 also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. Interleukin-4 is essential for the switching of B cells to IgE antibody production and for the maturation of T helper (Th) cells toward the Th2 phenotype. It participates in at least several B-cell activation processes as well as of other cell types. However, studies show that double mutant (Q116D, Y119D) of the murine IL4 protein (QY), both glutamine 116 and tyrosine 119, which binds to the IL4 receptor alpha, completely inhibits in a dose-dependent manner the IL4-induced proliferation of lipopolysaccharide-stimulated murine splenic B-cells, of the murine T cell line CTLL-2, and of the murine pre-B-cell line BA/F3. QY also inhibited the IL4-stimulated up-regulation of CD23 expression by lipopolysaccharide-stimulated murine splenic B-cells and abolished tyrosine phosphorylation of the transcription factor Stat6 and the tyrosine kinase Jak3 in IL4-stimulated BA/F3 cells.

## References

1. Grunewald SM. et al., 1998, J Immunol. 160 (8): 4004-9.
2. Susanne M. et al, 1997, THE JOURNAL OF BIOLOGICAL CHEMISTRY. 272 (3): 1480-3.
3. Nishikubo K. et al., 2003, Gene Ther. 10 (26): 2119-25.

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