



Product Information

INTERLEUKIN-4/Fc CHIMERA (NON-LYTIC)

Human, Recombinant
Expressed in NS.1 cells

Product Number I 0156

Product Description

Interleukin-4 (IL-4)/Fc Chimera is a soluble 98 kDa dimeric fusion protein consisting of human IL-4 fused to mutant human IgG1 Fc. The recombinant protein is purified from tissue culture supernatants of NS.1 cell transfectants. This fusion protein possesses both the biological functions of IL-4 as an immune anti-inflammatory agent and the prolonged circulating half-life determined by the Fc domain. Mutations to the complement (C1q) and FcγRI binding sites of the Fcγ2a fragment render IL-10/Fc unable to facilitate antibody directed cytotoxicity (ADCC) and complement mediated cytotoxicity (CDC).^{1,2} Mouse and human IL-4 share approximately 40% homology. Mouse IL-4 is not biologically active in human cells, and human IL-4 is not biologically active in mouse cells.³

Interleukin-4 (IL-4) is a cytokine produced in Type 2 T helper cells. These cells are responsible for the production of a group of several lymphokines including IL-3, IL-4, IL-5, IL-6, IL-10, IL-13, and GM-CSF. IL-4 is also produced in mast cells and affects several hematopoietic cell types.⁴

IL-4 plays a role in several activation processes of B-cells as well as those of several other cell types. In B cells IL-4 promotes immunoglobulin class switching to IgE and IgG1 isotypes.⁵ It up-regulates MHC class II on resting B cells and CD23 expression on both lymphocytes and monocytes.⁶ IL-4 also promotes survival, growth and differentiation in both T- and B-lymphocytes, mast cells, and endothelial cells.^{7,8} This cytokine inhibits the production of TNF, IL-1, and IL-6 by macrophages,⁹ and the activation of NK cells.¹⁰

Reagent

IL-4/Fc Chimera is supplied as a frozen solution at approximately 100 µg/ml protein in 0.22 µm sterile-filtered PBS, pH 7.5 (50 mM sodium phosphate, 100 mM potassium chloride, 150 mM sodium chloride) and contains no preservatives.

Preparation Instructions

IL-4/Fc Chimera can be further diluted to the desired working concentration in sterile PBS or culture medium.

Storage/Stability

Store at -20 °C. Store working solutions at 4 °C for up to one week. Repeated freeze/thaw cycles are not recommended. Do not store in a frost-free freezer.

Product Profile

The biological activity of recombinant IL-4/Fc is determined in a proliferation assay using CTLL-2 indicator cells.⁶ Optimal dilutions should be determined by each laboratory for each application.

Specific Activity: 1 to 1.5 x 10⁶ Units/mg

A unit is defined using rhIL-4 as the reference in the CTLL-2 cell proliferation assay.

Purity: >98% by SDS-PAGE

Endotoxin level is ≤ 0.1 ng/µg protein

References

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