Cytokines

Human Recombinant IL-4, ACF

Interleukin 4, animal component-free

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>78147</td>
<td>20 µg</td>
</tr>
<tr>
<td>78147.1</td>
<td>100 µg</td>
</tr>
<tr>
<td>78147.2</td>
<td>1000 µg</td>
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</tbody>
</table>

Product Description

Human Interleukin 4 (IL-4) is important for immune responses to helminth infection as well as in allergic responses (Oliphant et al.). The IL-4 receptor consists of a heterodimer of IL-4Ra and common gamma chain. IL-4 receptor engagement leads to the activation of JAK1/3 and the recruitment of STAT6 and IRS1/2 (Nelms et al.). IL-4 drives immunoglobulin class switching in B cells (to IgE, IgG4), mast cell hyperplasia, mucus production, and the differentiation of naïve T cells into T helper type 2 (Th2) cells, which produce IL-4, IL-5, IL-10, and IL-13 (Bao et al.; Nelms et al.; Oliphant et al.). In addition to Th2 cells, IL-4 is produced by CD4+ NK T cells, γδ T cells, activated basophils, eosinophils, and mast cells. Human IL-4 does not cross-react with mouse cells (Park et al.). This product is animal component-free.

Product Information

Alternative Names: B cell stimulating factor, BCDF, BCGF, BSF-1, Interleukin-4
Accession Number: P05112
Amino Acid Sequence: MHKCDITLQE IIKTLNSLTE QKTLCTELTV TDIFAASKNT TEKETFCRAA TVLRQFYSHH EKDTRCLGAT
Predicted Molecular Mass: 15.1 kDa
Species: Human
Cross Reactivity: Species-specific
Formulation: Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source: E. coli

Specifications

Activity: The EC50 is ≤ 0.25 ng/mL as determined by a cell proliferation assay using TF-1 cells. The specific activity is approximately 1.4 x 10^4 IU/µg as calibrated against the human recombinant IL-4 WHO International Standard (NIBSC code: 88/656).
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage: Store at -20°C to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
(A) The biological activity of Human Recombinant IL-4, ACF was tested by its ability to promote the proliferation of TF-1 cells. Cell proliferation was measured after 72 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 0.2 ng/mL.

(B) 1 μg of Human Recombinant IL-4, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-4, ACF has a predicted molecular mass of 15.1 kDa.

Related Products

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References


