Cytokines

Human Recombinant IL-3 (E. coli-expressed)

Interleukin 3

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<th>1000 μg</th>
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Product Description
Interleukin 3 (IL-3) is a species-specific pleiotropic cytokine that promotes the survival and proliferation of pluripotent hematopoietic stem cells and lineage-committed progenitor cells and their differentiation into mature cells of most lineages, including basophils, neutrophils, eosinophils, macrophages, dendritic cells, erythrocytes, and megakaryocytes (Yang et al.; Dorssers et al.; Broughton et al.). IL-3 is produced by activated T cells and has a physiological role in inflammation and allergies by promoting the secretion of inflammatory mediators such as histamine, IL-4, and IL-6 by basophils and eosinophils (Broughton et al.). The IL-3 receptor consists of a unique alpha subunit (CD123) and a beta common subunit (βc or CD131) that is shared with the receptors for IL-5 and GM-CSF, and is the principal signal transduction subunit for these cytokines. IL-3 binding to the heterodimeric receptor activates JAK/STAT, MAPK, and PI3K signaling pathways (Woodcock et al.).

Specifications

Activity: The specific activity is ≥ 5.0 x 10^5 units/mg (EC50 ≤ 2 ng/mL) as determined by a proliferation assay using TF-1 cells.

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 -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
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Data

(A) The biological activity of Human Recombinant IL-3 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 0.244 ng/mL.

(B) 1 μg of Human Recombinant IL-3 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-3 has a predicted molecular mass of 15.2 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References


