Datasheet

Cat. No. PH2025

Recombinant Human GM-CSF/CSF2

Information

Accession #	P04141
Alternate Names	Colony stimulating factor 2, CSF-2, GMCSF
Source	Human embryonic kidney cell, HEK293-derived human GM-CSF/CSF2 protein
Protein sequence	Ala18-Glu144
M.Wt	14.5 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Concentration	0. 2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The EC50 for this effect is 2-20 pg/mL.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Granulocyte Macrophage Growth Factor (GM-CSF) is one of an array of cytokines with pivotal roles in embryo implantation and subsequent development. In response to cytokine or inflammatory stimuli, GM-CSF is produced by a number of different cell types, including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes [1]. As a survival factor, GM-CSF activates the effector functions of granulocytes, monocytes/macrophages, and eosinophils [1, 2]. GM-CSF promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity [3-5]. It shows clinical effectiveness in ameliorating chemotherapy-induced neutropenia, and GM-CSF transfected tumor cells are utilized as cancer vaccines [6, 7]. Mature human GM-CSF shares 63%-70% amino acid sequence identity with canine, feline,

porcine, and rat GM-CSF and 54% with mouse GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF R alpha /CD116 and the signal transducing common beta chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 [8, 9]. In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF R alpha [10].

Reference

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www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com