Recombinant Human GM-CSF  
Catalog Number: 7954-GM

DESCRIPTION

Source  
Chinese Hamster Ovary cell line, CHO-derived  
Ala18-Glu144  
Accession # P04141

N-terminal Sequence Analysis  
Ala18

Predicted Molecular Mass  
14.5 kDa

SPECIFICATIONS

SDS-PAGE  
20-35 kDa, reducing conditions

Activity  
The ED50 for this effect is 6-30 pg/mL.

Endotoxin Level  
<0.01 EU per 1 μg of the protein by the LAL method.

Purity  
>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation  
Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution  
Reconstitute at 100 μg/mL in PBS containing at least 0.1% human or bovine serum albumin.

Shipping  
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage  
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

GM-CSF was initially characterized as a factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by a number of different cell types (including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes) in response to cytokine or inflammatory stimuli. On mature hematopoietic cells, GM-CSF is a survival factor for and 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). The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled α-helices (8-12). 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 Rα/CD116 and the signal transducing common β chain (CD131), which is also a component of the high-affinity receptors for IL-3 and IL-5 (13, 14). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF Rα (15). Human GM-CSF is active on canine and feline cells but not on murine cells (16-18).

References: