Recombinant Mouse G-CSF  
Catalog Number: 414-CS

DESCRIPTION

Source  E. coli-derived
Val31-Ala208, with an N-terminal Met
Accession # P09920

N-terminal Sequence Analysis  Met
Predicted Molecular Mass  19 kDa

SPECIFICATIONS

The ED50 for this effect is 10-60 pg/mL.

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

Purity  >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation  Lyophilized from a 0.2 μm filtered solution in Citric Acid and Tween® 20 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution  Reconstitute at 100 μg/mL in sterile deionized water.

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

G-CSF is a pleiotropic cytokine best known for its specific effects on the proliferation, differentiation, and activation of hematopoietic cells of the neutrophilic granulocyte lineage. It is produced mainly by monocytes and macrophages upon activation by endotoxin, TNF-α and IFN-γ. Other cell types including fibroblasts, endothelial cells, astrocytes and bone marrow stromal cells can also secrete G-CSF after LPS, IL-1 or TNF-α activation. In addition, various carcinoma cell lines and myeloblastic leukemia cells can express G-CSF constitutively.

The murine G-CSF cDNA encodes a 208 amino acid (aa) residue precursor protein containing a 30 aa residue signal peptide that is proteolytically cleaved to generate the 178 aa residue mature protein. Human G-CSF is 73% identical at the amino acid level to murine G-CSF and the two proteins show species cross-reactivity.

In vitro, G-CSF stimulates growth, differentiation and functions of cells from the neutrophil lineage. It also has blast cell growth factor activity and can synergize with IL-3 to shorten the G0 period of early hematopoietic progenitors. Consistent with its in vitro functions, G-CSF has been found to play important roles in defense against infection, in inflammation and repair, and in the maintenance of steady state hematopoiesis. Recombinant human G-CSF has been approved for the amelioration of chemotherapy induced neutropenia as well as for severe chronic neutropenia following marrow transplant.