

G-CSF, Rat

Cat. No.: Z03117-1

Size: 1.0 mg

Synonyms: Granulocyte, Colony-Stimulating Factor, CSF-3, MGI-1G, GM-CSF β , pluripoietin

Description:

Granulocyte Colony-Stimulating Factor (G-CSF) is a hematopoietic cytokine belonging to the four-helix bundle cytokine superfamily. G-CSF is produced by monocytes, macrophages, fibroblasts, and endothelial cells. Its expression is highly regulated and induced by a variety of agents, including Tumor Necrosis Factor (TNF), Interleukin-1 (IL-1), Interferon γ (IFN- γ), and Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF). G-CSF binds to the CSF-specific high affinity receptors expressed on neutrophilic granulocyte lineage. *In vivo* G-CSF regulates the production of neutrophilic granulocytes, a critical part of host defense systems, and helps the maturation of leukemic cell lines. G-CSF is widely employed clinically because of its fairly innocuous safety profile.

Recombinant rat Granulocyte Colony-Stimulating Factor (rrG-CSF) produced in *E. coli* is a single non-glycosylated polypeptide chain containing of 194 amino acids. A fully biologically active molecule, rrG-CSF has a molecular mass of 21.4 kDa analyzed by non-reducing SDS-PAGE and is obtained by proprietary chromatographic techniques at GenScript.

Amino Acid Sequence:

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00001 MIPLLTVSSL PPSLPLPRSF LLKSLEQVRK IQARNTELLE
00041 QLCATYKLCH PEELVLFGHS LGIPKASLSS CSSQALQQTG
00081 CLSQLHSGLF LYQGLLQALA GISSELAPTL DMLHLDVDF
00121 ATTIWQMES LGVAPTQPT QSTMPIFSTA FQRRAGGVLV
00161 TSYLQSFLET AHHALHHLPR PAQKHFPESL FISI
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Source: *E. coli*

Species: Rat

Biological Activity: ED₅₀ < 0.1 ng/mL, measured by a cell proliferation assay using NSF-60 cells, corresponding to a specific activity of > 1 × 10⁷ units/mg.

Molecular Weight: 21.4 kDa, observed by non-reducing SDS-PAGE.

Formulation: Lyophilized after extensive dialysis against 20mM Citric Acid

Reconstitution: Reconstituted in ddH₂O at 100 μ g/mL.

Purity: > 95% by SDS-PAGE analysis.

Endotoxin Level: < 0.2 EU/ μ g, determined by LAL method.

Storage: Lyophilized recombinant rat Granulocyte Colony-Stimulating Factor (rrG-CSF) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rrG-CSF remains stable up to 2 weeks at 4°C or up to 3 months at -20°C.