Data sheet

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Jena Bioscience

G-CSF
Granulocyte-Colony Stimulating Factor
human, recombinant, chinese hamster ovary (CHO) cells

Cat. No.	Amount
PR-424	10 μg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form
Lyophilized.

Solubility
It is recommended to reconstitute the lyophilized G-CSF in sterile bidest H_2O not less than
100 μg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity
ED_{50} < 0.1 ng/ml corresponding to a specific activity of 1.3 x 10^8 IU/mg, calculated by the dosedependant proliferation of murine NFS-60 indicator cells (measured by 3H-thymidine uptake).

Endotoxin
Less than 0.1 ng/μg (IEU/μg) of G-CSF.

Molecular Weight
18 kDa

Purity
$\geq$ 95% by SDS-PAGE and RP-HPLC

Description
G-CSF is a glycoprotein containing internal disulfide bonds. It induces the survival, proliferation, and differentiation of neutrophilic granulocyte precursor cells and functionally activates mature blood neutrophils. Among the family of colony-stimulating factors, G-CSF is the most potent inducer of terminal differentiation to granulocytes and macrophages of leukemic myeloid cell lines. The synthesis of G-CSF can be induced by bacterial endotoxins, TNF, Interleukin-1, and GM-CSF (cat.# PR-436 or PR-437). Prostaglandin E2 inhibits the synthesis of G-CSF. In epithelial, endothelial, and fibroblastic cells secretion of G-CSF is induced by Interleukin-17.
Recombinant Human Granulocyte Colony Stimulating Factor is a glycosylated, polypeptide chain containing 174 amino acids and having a molecular mass of 20 kDa.
Human G-CSF is purified by proprietary chromatographic techniques.

Selected References:

Worden *et al.* (2005) Randomized phase II evaluation of 6 g/m2 of ifosfamide plus doxorubicin and granulocyte colony-stimulating factor (G-CSF) compared with 12 g/m2 of ifosfamide plus doxorubicin and G-CSF in the treatment of poor-prognosis soft tissue sarcoma. *J. Clin. Oncol.* **23**:105.
Lozano *et al.* (2004) Detection of free hepatitis C virus core antigen by enzyme-linked immunosorbent assay is not suitable for screening of granulocyte colony-stimulating factor-mobilized hematopoietic progenitor donors. *Transfusion* **44**:1755.
Youssef *et al.* (2004) Effect of bovine granulocyte colony-stimulating factor on the development of pneumonia caused by Mannheimia haemolytica. *Vet. Pathol.* **41**:649.
Hisashi *et al.* (2004) Granulocyte-colony stimulating factor enhanced the recruitment of bone marrow cells into the heart: time course evaluation of phenotypic differentiation in the doxorubicin-induced cardiomyopathic model. *Jpn. J. Thorac. Cardiovasc. Surg.* **52**:451.
Jorgensen *et al.* (2005) Granulocyte-colonystimulating factor (Filgrastim) may overcome imatinib-induced neutropenia in patients with chronic-phase myelogenous leukemia. *Cancer* **103**:210.
Kleinschnitz *et al.* (2004) Induction of granulocyte colony-stimulating factor mRNA by focal cerebral ischemia and cortical spreading depression. *Brain Res. Mol. Brain Res.* **131**:73.