

Recombinant human granulocyte colony-stimulating factor (G-CSF). Animal and Endotoxin free

CATALOGUE NUMBER: AMS-273 AVAILABLE SIZES: 10µg, 50µg, 100µg, 1000µg

DESCRIPTION

Granulocyte Colony-Stimulating Factor (G-CSF, filgrastim, pegfilgrastim or lenograstim) is a hematopoietic growth factor that stimulates the proliferation and differentiation of hematopoietic progenitor cells committed to the neutrophil/granulocyte lineage, in a dose-dependent manner. It is produced by a variety of cells including macrophages, monocytes, fibroblasts, endothelial cells and bone marrow stroma in response to specific stimulation by f.ex. endotoxin, TNF-alpha and IFN-gamma. Clinical applications of G-CSF include treatment of leukopenia following cancer therapy and bone marrow transplantation. Human and murine G-CSF are cross-species reactive. Recombinant human G-CSF is a 18.7 kDa protein containing 174 amino acid residues.

SOURCE

Produced in the endosperm tissue of barley grain (*Hordeum vulgare*).

FORMULATION

Sterile filtered through a 0.2 µm filter. Lyophilized from PBS, pH 7.2

PURITY

Greater than 95% by SDS-PAGE gel analysis.

RECONSTITUTION

Note: Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile water to a concentration of no less than 100 µg/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

STABILITY

The lyophilized protein, though stable at room temperature for few weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.

BIOLOGICAL ACTIVITY

Each batch of growth factor is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of recombinant human G-CSF was determined by its dose-dependent effects on the corresponding proliferation of mouse NFS-60 cells. The ED50 value for this ISOkine™ is typically < 0.1 ng/ml to specific activity > 1 x 10⁷ U/mg. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL

Endotoxin level is less than 0.005ng per µg of ISOkine™ product (0.05EU/µg).

MAT assay

Purified product carries no pyrogenic or pro-inflammatory contaminants, as assayed with monocyte activation test using Human 10-plex Cytokine Assay measuring IL-6, TNF-alpha and IL-1beta induction. Ref. The Blood Bank, University Hospital of Iceland, Reykjavik, Iceland

MOLECULAR WEIGHT

Recombinant human G-CSF contains 174 amino acids and a 16 a.a. Histidine-based tag for a total length of 190 a.a. and has a predicted molecular mass of 20.8 kDa.

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