

bio-risk-free | not for human use | for research only | not for diagnostic or therapeutic use

M-CSF, human, recombinant

Catalog Number: 01-A0220 LOT NUMBER: 01-1-022-7115 AVAILABLE SIZES: 10µg, 50µg, 100µg

DESCRIPTION

M-CSF (macrophage colony stimulating factor, colony stimulating factor 1, CSF-1) is a hemopoietic growth factor produced by monocytes, granulocytes, endothelial cells, fibroblasts and activated B-cells and T-cells. M-CSF stimulates macrophage colony formation and regulates proliferation and differentiation of hematopoietic stem cells into macrophages and regulates survival and differentiation of monocytes. It enhances antibody-dependent cell-mediated cytotoxicity, enhances macrophage killing of tumor cells and microorganisms, regulates the release of cytokines and inhibits bone resorption by osteoclasts. Human M-CSF shows biological activity on murine and rat cells and although murine M-CSF is active in rat cells it is inactive in human cells.

SOURCE

ISOkine™ recombinant human M-CSF is 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. The solution can be further diluted into aliquots in aqueous buffers. 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 ISOkine™ growth factor is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkine™ recombinant human M-CSF was determined by its dose-dependent effect on the proliferation of M-NFS-60 cells. The ED50 value for this effect is typically < 2 ng/ml corresponding to specific activity > 5 x 10⁵ 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 ISOkine™ 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 M-CSF contains 159 amino acids and a 16 a.a. Histidine-based tag for a total length of 175 a.a. and has a predicted molecular mass of 20.7 kDa. The recombinant protein migrates with an apparent molecular mass of 24-26 kDa in SDS-PAGE.

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