

# Recombinant human macrophage colony stimulating factor (M-CSF). Animal and Endotoxin free

CATALOGUE NUMBER: AMS-375

AVAILABLE SIZES: 10µg, 50µg, 100µg, 1000µg

## DESCRIPTION

M-CSF (macrophage colony stimulating factor, colony stimulating factor 1, CSF-1) is a hemtopoietic 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 hematopoeitic stem cells into macrophages and regulates survival and differentiation of monocytes. It enhances antibody-dependent cell-mediated cytotoxicity, enhances marophage 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

Recombinant human M-CSF is produced in the endosperm tissue of barley grain (*Hordeum vulgare*), that exhibits up to 50 times less protease activity than *E.coli* or mammalian cells. Barley seed is void of any human or animal viral contaminants that could jeopardize your cell culture.

## 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 aquous 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 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 10e5 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 product (0.05EU/µg) as measured by turbidimetric kinetic assay. Ref. Associates of Cape Cod Industries, Deacon Park, Knowsley, Liverpool, UK

## 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 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.