ISOkine
PREMIUM GRADE GROWTH FACTORS AND CYTOKINES

Animal-Free | Endotoxin-Free | Carrier-Free

M-CSF, human, recombinant

Catalog Number: IK2400

DESCRIPTION
Macrophage colony-stimulating factor (M-CSF, colony-stimulating factor 1, CSF-1) is a hematopoietic 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 cells but murine M-CSF is inactive in human cells.

SOURCE
Produced in the endosperm tissue of barley grain (*Hordeum vulgare*). ISOkine® growth factors and cytokines are animal-free and serum-free and void of antibiotics, endotoxins, viruses, and prions.

FORMULATION
2xPBS pH 7.2, sterile filtered through 0.22 µm filter.

PURITY
> 95% by SDS-PAGE gel analysis.

SHELF LIFE
The lyophilized protein has a shelf life for 3 years when stored at < 20°C.

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

STABILITY
The lyophilized protein, though stable at room temperature for a 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 factors is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkine® recombinant human M-CSF is assayed by measuring its dose-dependent effect on the proliferation of M-NFS-60 cells. The ED50 for this effect using M-CSF is typically <4 ng/ml. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL
Endotoxin level is < 0.0100 EU per µg of ISOkine® product by LAL method.

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 158 amino acids and an N-terminal 16 amino acid histidine tag for a total length of 174 amino acids and has a predicted molecular mass of 20.52 kDa.

Víkurhvarf 7, 203 Kópavogur, Iceland
info@orfgenetics.com | +354 777 2780 | www.orfgenetics.com
ORF GENETICS