

Recombinant Human Macrophage Colony-stimulating Factor

#R00076

Size: 10 µg/100 µg/500 µg

Stability & Storage

- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
 - 1 month, 2 to 8 °C under sterile conditions after reconstitution.
 - 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Macrophage Colony Stimulating Factor (M-CSF), also named CSF-1, is a hematopoietic growth factor that is involved in the proliferation, differentiation, and survival of monocytes, macrophages, and bone marrow progenitor cells. It is produced by osteoblasts (as a result of endocrine stimulation by parathyroid hormone) exerts paracrine effects on osteoclasts and can interact with CSF1R. M-CSF is a four α-helical bundle cytokine and its active form is found extracellularly as a disulfide-linked homodimer. Four transcript variants encoding three different isoforms have been reported for M-CSF gene. Although forms may vary, all of them contain the N-terminal 150 a.a. portion that is necessary and sufficient for interaction with the receptor. The first 223 a.a. of mature human M-CSF shares 88 %, 86 %, 81 % and 74 % sequence identity with corresponding regions of dog, cow, mouse and rat M-CSF, respectively. Human M-CSF is active in the mouse, but mouse

M-CSF is reported to be species-specific.

AA Sequence

EEVSEYCSHMIGSGHLQSLQRLIDSQMETSCQITFEF
VDQEQLKDPVCYLKKAFLLVQDIMEDTMRFRDNTPN
AIAIVQLQELSLRLKSCFTKDYEEHDKACVRTFYETPL
QLLEKVKNVFNETKNLLDKDWNIFSKNCNNSFAECSS
QGHERQSEGS

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water to a concentration of 0.1 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	CSF-1, MGI-IM
Accession	P09603-3
GeneID	1435
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 36.8 kDa, a disulfide-linked homodimer consisting of two 158 amino acid polypeptide chains.
Purity	> 95 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by a cell proliferation assay using murine M-NFS-60 cells is less than 1 ng/ml, corresponding to a specific activity of > 1.0 × 10 ⁶

	IU/mg.
Physical	Sterile Filtered White lyophilized
Appearance	(freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH7.4.
Endotoxin	Less than 1 EU/μg of rHuM-CSF as determined by LAL method.