

Product Data Sheet

M-CSF Protein, Rat (HEK293)

Cat. No.:	HY-P70493
Synonyms:	Macrophage colony-stimulating factor 1; CSF-1; M-CSF; MCSF; CSF1
Species:	Rat
Source:	HEK293
Accession:	Q8JZQ0 (E33-R254)
Gene ID:	78965
Molecular Weight:	Approximately 46.0 kDa

PROPERTIES		
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AA Sequence	EVSEHCSHMI GNGHLQILQQ LIDSQMETAC LIEYKFVDQE QLDDPVCYLK KAFVLVQVII EETMRFKDNT PNANATERLQ ELSMKLNSCF IKDYKEQNEA CVQTYKESPL RLLEKIKNFF NETKNFLEKD WNIFSKNCND SFAKCSSRDV VTKPDCNCLY PKATPSSDLA SASPHQPPAP SMAPLADLAW DDSQRTEGSS LLPSDLPLRI EDPGSAKQRP PR	
Biological Activity	Measured in a cell proliferation assay using M-NFS-60 cells. The ED ₅₀ for this effect is 0.02302 ng/mL, corresponding to a specific activity is 4.34×10 ⁷ units/mg.	
Appearance	Lyophilized powder	
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.	
Endotoxin Level	<1 EU/µg, determined by LAL method.	
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).	
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.	
Shipping	Room temperature in continental US; may vary elsewhere.	

DESCRIPTION

Background

M-CSF Protein assumes a crucial role in orchestrating the regulation of survival, proliferation, and differentiation of hematopoietic precursor cells, particularly mononuclear phagocytes, including macrophages and monocytes. Its significance extends to promoting the release of pro-inflammatory chemokines, thereby playing a pivotal role in innate

immunity and inflammatory processes. Moreover, M-CSF is a key player in the regulation of osteoclast proliferation and differentiation, influencing bone resorption and contributing to normal bone development. Beyond its impact on the skeletal system, M-CSF is indispensable for normal male and female fertility. The cytokine also plays a role in lipoprotein clearance and contributes to cellular processes such as reorganizing the actin cytoskeleton, regulating the formation of membrane ruffles, cell adhesion, and cell migration. M-CSF can exist in various forms, including a homodimer with two identical 150-200 kDa proteoglycan subunits, a heterodimer with a 150-200 kDa proteoglycan subunit and a truncated 43 kDa subunit, and a homodimer with two identical 43 kDa subunits. It interacts with its receptor CSF1R to exert its diverse functions.

Caution: Product has not been fully validated for medical applications. For research use only.

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