Recombinant mouse M-CSF

Catalog No: #AG0044

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	Recombinant mouse M-CSF
Host Species	HEK293
Purification	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC
Immunogen Description	Lys33-Glu262
Target Name	M-CSF
Other Names	Mouse colony stimulating factor 1 (macrophage); CSF1; CSF-1; Lanimostim; macrophage colony stimulating factor; macrophage colony-stimulating factor 1; MCSF; M-CSF; MCSFlanimostim; MGC31930
Accession No.	Uniprot:P07141Gene ID:12977
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GeneID	12977
Target Species	mouse
Calculated MW	26.0 KDa
Tag Info	addtional amino acid free
Formulation	0.22 μm filtered solution of PBS, pH 7.4.
Storage	Aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Background

M-CSF, also known as CSF-1, is a four-alpha -helical-bundle cytokine that is the primary regulator of macrophage survival, proliferation and differentiation (1-3). M-CSF protein is also essential for the survival and proliferation of osteoclast progenitors (1, 4). M-CSF also primes and enhances macrophage killing of tumor cells and microorganisms, regulates the release of cytokines and other inflammatory modulators from macrophages, and stimulates pinocytosis (2, 3). M-CSF increases during pregnancy to support implantation and growth of the decidua and placenta (5). Sources of M-CSF include fibroblasts, activated macrophages, endometrial secretory epithelium, bone marrow stromal cells and activated endothelial cells (1-5). The M-CSF receptor (c-fms) transduces its pleotropic effects and mediates its endocytosis. M-CSF mRNAs of various sizes occur (3-9). Full length mouse M-CSF transcripts encode a 520 amino acid (aa) type I transmembrane (TM) protein with a 462 aa extracellular region, a 21 aa TM domain, and a 37 aa cytoplasmic tail that forms a 140 kDa covalent dimer. Differential processing produces two proteolytically cleaved, secreted dimers. One is an N- and O- glycosylated 86 kDa dimer, while the other is modified by both glycosylation and chondroitin-sulfate proteoglycan (PG) to generate a 200 kDa subunit. Although PG-modified M-CSF protein can circulate, it may be immobilized by attachment to type V collagen (8). Shorter transcripts encode M?CSF that lacks cleavage and PG sites and produces an N-glycosylated 68 kDa TM dimer and a slowly produced 44 kDa secreted dimer (7). Although forms may vary in activity and half-life, all contain the N-terminal 150 aa portion that is necessary and sufficient for interaction with the M-CSF receptor (10, 11). The first 229 aa of mature mouse M-CSF shares 87%, 83%, 82% and 81% aa identity with corresponding regions of rat, dog, cow and human M-CSF, respectively (12, 13). Human M?CSF is active in the mouse, but mouse M-CSF is reported to be species-specific.

Note: This product is for in vitro research use only