

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse M-CSF in ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant human M-CSF, recombinant mouse (rm) SCF, rmFit-3 Ligand, rmG-CSF, and rmGM-CSF is observed.
Source	Monoclonal Rat IgG _{2B} Clone # 131621
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse M-CSF Lys33-Glu262 (predicted) Accession # P07141
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

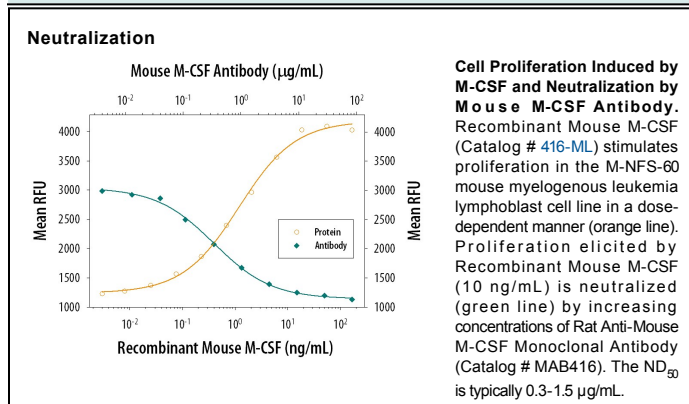
Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Mouse M-CSF Sandwich Immunoassay

		Reagent
ELISA Capture	2-8 µg/mL	Mouse M-CSF Antibody (Catalog # MAB416)
ELISA Detection	0.1-0.4 µg/mL	Mouse M-CSF Biotinylated Antibody (Catalog # BAF416)
Standard		Recombinant Mouse M-CSF (Catalog # 416-ML)

Neutralization Measured by its ability to neutralize M-CSF-induced proliferation in the M-NFS-60 mouse myelogenous leukemia lymphoblast cell line. Halenbeck, R. *et al.* (1989) *Biotechnology* 7:710. The Neutralization Dose (ND₅₀) is typically 0.3-1.5 µg/mL in the presence of 10 ng/mL Recombinant Mouse M-CSF.

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

M-CSF, also known as CSF-1, is a four- α -helical-bundle cytokine that is the primary regulator of macrophage survival, proliferation and differentiation (1-3). M-CSF 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 pleiotropic 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 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.

References:

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