

Store at  
-20°C

# Mouse CSF-1/M-CSF Recombinant Protein



#33444

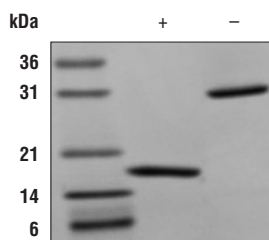
10 µg

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**UniProt ID** #P07141

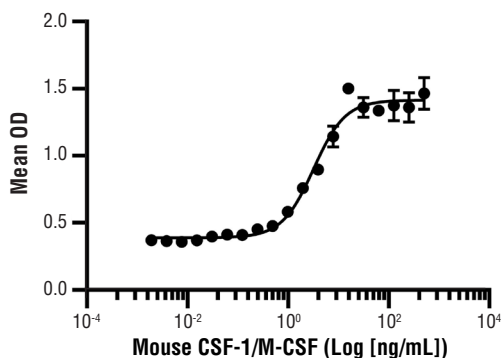
New 02/21

## For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** Colony stimulating factor 1 (CSF-1)/macrophage colony stimulating factor (M-CSF) is produced by fibroblasts, endothelial cells, stromal cells, macrophages, osteoblasts, and other cell types (1). CSF-1/M-CSF is required for growth and differentiation of monocytes and macrophages (1,2). CSF-1/M-CSF polarizes macrophages into the M2 phenotype where anti-inflammatory IL-10 is produced, rather than the M1 phenotype where inflammatory cytokines are produced. CSF-1/M-CSF also recruits monocytes and enhances angiogenesis by inducing VEGF production (1,2). CSF-1/M-CSF binds to its receptor CSF1R; downstream signaling involves PI3K/Akt, Erk, and Stats 1, 3, and 5 (1,3). An increase in CSF-1/M-CSF expression may contribute to cancer progression, and high plasma CSF-1/M-CSF levels are associated with rheumatoid arthritis (1,4,5).

**Molecular Weight:** 18.2 kDa**Endotoxin:** Endotoxin levels are  $\leq$  to 1 EU / 1 µg mCSF-1/M-CSF.**Purity:**  $\geq$  95% purity was determined by SDS-PAGE.**Source/Purification:** Recombinant mouse CSF-1/M-CSF was expressed in *E. coli* and is supplied in a lyophilized form.**Bioactivity:** The bioactivity of recombinant mCSF-1/M-CSF was determined in an NFS-60 cell proliferation assay. The ED<sub>50</sub> of each lot is  $\leq$  10 ng/ml.

The purity of Mouse CSF-1/M-CSF Recombinant Protein was determined by SDS-PAGE of 1 µg reduced (+) and non-reduced (-) recombinant mCSF-1/M-CSF and staining with Coomassie Blue. mCSF-1/M-CSF is a homodimer with a predicted total molecular weight (MW) of 36.4 kDa with each subunit equaling 18.2 kDa.



Serial dilutions of Mouse CSF-1/M-CSF Recombinant Protein were added to NFS-60 cells. Cell proliferation was measured and the linear portion of the curve was used to calculate the ED<sub>50</sub>.

**Storage:** Mouse CSF-1/M-CSF Recombinant Protein is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

### Background References:

- (1) Hamilton, J.A. (2008) *Nat Rev Immunol* 8, 533-44.
- (2) Curry, J.M. et al. (2008) *PLoS One* 3, e3405.
- (3) Hamilton, J.A. (1997) *J Leukoc Biol* 62, 145-55.
- (4) Rioja, I. et al. (2008) *Arthritis Rheum* 58, 2257-67.
- (5) Skrzypski, M. et al. (2008) *Clin Cancer Res* 14, 4794-9.

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.