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#33444**Mouse CSF-1/M-CSF Recombinant Protein**

10 µg


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**For Research Use Only. Not for Use in Diagnostic Procedures.**
**MW (kDa):**  
18.2

**UniProt ID:**  
#P07141

**Entrez-Gene Id:**  
12977
**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).

**Endotoxin**

Endotoxin levels are less than or equal to 1 EU / 1 µg mCSF-1/M-CSF.

**Purity**

A greater than or equal to 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 less than or equal to 10 ng/ml.

**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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