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Human CSF-1/M-CSF Recombinant Protein



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MW (kDa):	UniProt ID:	Entrez-Gene Id:
16-26	#P09603	1435

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

Less than 0.01 ng endotoxin/1 µg hCSF-1/M-CSF.

Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hCSF-1/M-CSF. All lots are greater than 98% pure.

Source / Purification

Recombinant human CSF-1/M-CSF Glu33-Ser190 (Accession #P09603-3) was expressed in human 293 cells at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hCSF-1M/CSF was determined in a M-NFS-60 cell proliferation assay. The ED₅₀ of each lot is between 0.5-15.0 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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