

# Recombinant Mouse Granulocyte Macrophage-Colony Stimulating Factor (GM-CSF)

**Catalog Number** PMC2014 (2 µg), PMC2015 (10 µg), PMC2016 (25 µg), PMC2011 (100 µg), PMC2013 (1 mg)

**Pub. No.** MAN0003599 **Rev.** A.0

## Product specifications

<b>Lot number</b>	See product label.
<b>Molecular weight</b>	14 kDa
<b>Purity</b>	>95% as determined by SDS PAGE analysis.
<b>Biological activity</b>	ED <sub>50</sub> <0.01 ng/mL, determined by the dose dependent proliferation of MC/9 cells. Determine the optimal concentration for each specific application using an initial dose response assay.
<b>Formulation</b>	Lyophilized, carrier free.
<b>Sterility</b>	Filtered before lyophilization through a 0.22 micron sterile filter.
<b>Endotoxin</b>	<0.1 ng/µg
<b>Production</b>	Produced in <i>E. coli</i> and purified via sequential chromatography.
<b>Reconstitution recommendation</b>	Centrifuge the vial briefly, before opening to bring the contents to the bottom. Reconstitute the lyophilized protein in sterile, distilled water to a concentration of 0.1–1.0 mg/mL. Apportion the reconstituted protein into working aliquots and store at < -20°C. Make any further dilutions of the reconstituted protein in low endotoxin medium or a buffered solution containing a carrier protein such as heat inactivated FCS or tissue culture grade BSA.
<b>Suggested working dilutions</b>	The optimal concentration should be determined for each specific application.
<b>Storage</b>	Store the lyophilized protein at 2–8°C, preferably desiccated. Upon reconstitution, apportion into working aliquots and store at < -20°C. Avoid repeated freeze-thaw cycles.
<b>Expiration date</b>	Expires one year from date of receipt when stored as instructed.
<b>References</b>	<p>Beissert, S, Hosoi, J, Grabbe, S, Asahina, A, and Granstein, RD. (1995) IL-10 inhibits tumor antigen presentation by epidermal antigen-presenting cells. <i>J. Immunol.</i> 154(3):1280-1286.</p> <p>Bradney, CP, Sempowski, GD, Liao, HX, Haynes, BF, and Staats, HF. (2002) Cytokines as adjuvants for the induction of anti-human immunodeficiency virus peptide immunoglobulin G (IgG) and IgA antibodies in serum and mucosal secretions after nasal immunization. <i>J. Virol.</i> 76(2):517-524.</p> <p>Grabbe, S, Steinert, M, Mahnke, K, Schwartz, A, Luger, TA, and Schwarz, T. (1996) Dissection of antigenic and irritative effects of epicutaneously applied haptens in mice. Evidence that not the antigenic component but nonspecific proinflammatory effects of haptens determine the concentration-dependent elicitation of allergic contact dermatitis. <i>J. Clin. Invest.</i> 98(5):1158-1164.</p> <p>Jones, M, Komatsu, M, and Levy, RB. (2000) Cytotoxically impaired transplant recipients can efficiently resist major histocompatibility complex-matched bone marrow allografts. <i>Biol. Blood Marrow Transplantation</i> 6 (4A):456-464.</p> <p>Mackey, MF, Wang, Z, Eichelberg, K, and Germain, RN. (2003) Distinct contributions of different CD40 TRAF binding sites to CD154-induced dendritic cell maturation and IL-12 secretion. <i>Eur. J. Immunol.</i> 33(3):779-789.</p> <p>Rubinson, DA, Dillon, CP, Kwiatkowski, AV, Sievers, C, Yang, LL, Kopinja, J, Zhang, MD, McManus, MT, Gertler, FB, Scott, ML, and Van Parijs, L. (2003) A lentivirus-based system to functionally silence genes in primary mammalian cells, stem cells and transgenic mice by RNA interference. <i>Nature Genetics</i> 33(3):401-406.</p> <p>Stumbles, PA, Thomas, JA, Pimm, CL, Lee, PT, Venaille, TJ, Proksch, S, and Holt, PG. (1998) Resting respiratory tract dendritic cells preferentially stimulate T helper cell type 2 (Th2) responses and require obligatory cytokine signals for induction of Th1 immunity. <i>J. Exp. Med.</i> 188(11):2019-2031.</p>

## Limited product warranty

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## Explanation of Symbols

Symbol	Description	Symbol	Description	Symbol	Description
	Manufacturer		Catalog number		Batch code
	Use by		Temperature limitation		
	Consult instructions for use		Caution, consult accompanying documents		



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