

Recombinant Mouse GM-CSF (carrier-free)

Catalog# / Size	576308 / 500 µg 576302 / 10 µg 576304 / 25 µg 576306 / 100 µg
Regulatory Status	RUO
Other Names	Granulocyte/macrophage-colony stimulating factor, CSF-α, Pluripoietin-α, Eosinophil colony stimulating factor (Eo-CSF), Burst promoting activity (BPA)
Description	GM-CSF is a hematopoietic factor that is produced by T cells, macrophages, fibroblasts and endothelial cells. This multifunctional cytokine stimulates progenitor cells of neutrophils, eosinophils and macrophages. GM-CSF is also a differentiation and activating factor for granulocytic and monocytic cells.

Product Details

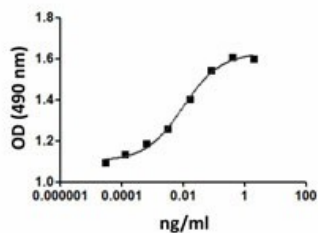
Source	Mouse GM-CSF, amino acids Ala18-Lys141 (Accession # NM_009969) was expressed in <i>E. coli</i> .
Molecular Mass	The 125 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 14.2 kDa. The DTT-reduced protein migrates at approximately 13 kDa and the non-reduced protein migrates at approximately 11kDa by SDS-PAGE.
Purity	Purity is >98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10mM NaH ₂ PO ₄ , 150mM NaCl, pH 7.2.
Endotoxin Level	Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	The ED ₅₀ is <0.05 ng/ml, corresponding to a specific activity >2x10 ⁷ units/mg.
Application	Bioassay
Recommended Usage	Use when high specific biological activity is required.
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .
Application References	1. Ahn J, <i>et al.</i> 2012. <i>PNAS</i> . 109:19386. PubMed 2. Verhagen J, <i>et al.</i> 2012. <i>PNAS</i> . 110:E221. PubMed 3. Bretscher P, <i>et al.</i> 2015. <i>EMBO Mol Med</i> . 7:593. PubMed
(PubMed link indicates BioLegend citation)	
Product Citations	1. Ayala M, <i>et al.</i> 2017. <i>J Cancer Res Clin Oncol</i> . 10.1007/s00432-017-2421-7. PubMed 2. Ayala M, <i>et al.</i> 2017. <i>Breast Cancer Res Treat</i> . 10.1007/s10549-017-4414-2. PubMed 3. Bachran C, <i>et al.</i> 2017. <i>Sci Rep</i> . 10.1038/s41598-017-17948-0. PubMed 4. Nakamura K, <i>et al.</i> 2018. <i>Cancer Cell</i> . 33:634. PubMed 5. Snell LM, <i>et al.</i> 2018. <i>Immunity</i> . 49:678. PubMed

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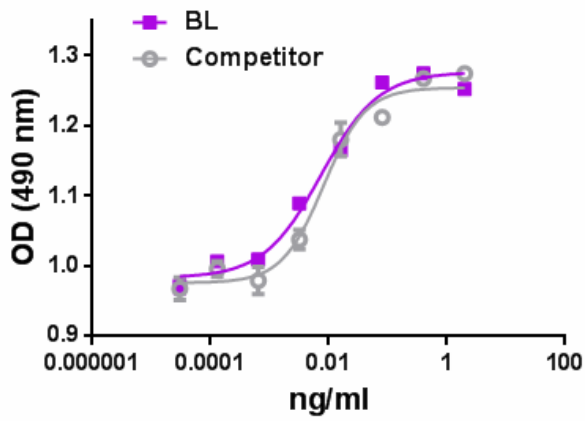
Antigen Details

Structure	cytokine
Distribution	T cells, monocytes/macrophages, fibroblasts, endothelial cells, mast cells
Function	Synergistic with IL-1, IL-3, G-CSF; E21R competitive antagonist for receptor binding; stored in ECM with heparan sulfate proteoglycans
Interaction	Granulocyte/macrophage/erythroid/megakaryocytic progenitors, myeloblasts, monoblasts
Ligand/Receptor	Heterodimer GM-CSFR μ subunit (CDw116); β -subunit (CDw131) in common with IL-3R, IL-5R
Bioactivity	Growth/development granulocyte/macrophage progenitors; differentiates myeloblasts/monoblasts; synergizes with Epo proliferation of erythroid/megakaryocytic progenitors
Cell Type	Embryonic Stem Cells, Hematopoietic stem and progenitors
Biology Area	Cell Biology, Stem Cells
Molecular Family	Cytokines/Chemokines, Growth Factors
Antigen References	<ol style="list-style-type: none"> 1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press San Diego. 2. Demetri G, <i>et al.</i> 1991. <i>Blood</i> 78:2791. 3. Fan D, <i>et al.</i> 1991. <i>In vivo</i> 5:571. 4. Negrin R, <i>et al.</i> 1992. <i>Adv. Pharmacol.</i> 23:263.
Gene ID	12981

Product Data



FDC-P1 cell proliferation induced by mouse GM-CSF.



Recombinant mouse GM-CSF induces the proliferation of mouse FDC-P1 cell line in a dose dependent manner. BioLegend's protein was compared side-by-side to the leading competitor's equivalent product.

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