

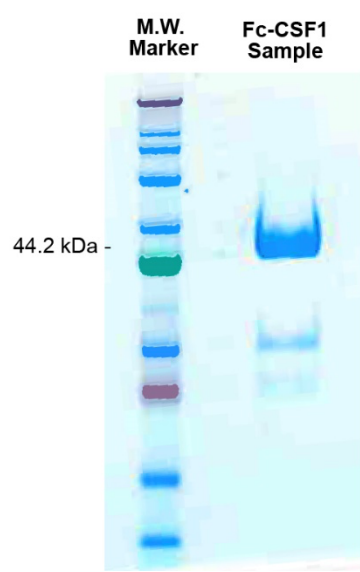
## Product Information Sheet

# Human Recombinant Fc-Fusion Tagged Colony-Stimulating Factor I (fc-CSF1) Protein

Catalog Number: GR1002-100C, GR1002-50C, GR1002-10C

Product Overview	
Product Name	Human Recombinant Fc-Fusion Tagged Colony-Stimulating Factor 1 (fc-CSF1) Protein
Catalog #s	GR1002-100C, GR1002-50C, GR1002-10C
Quantity	100µg (GR1002-100C), 50µg (GR1002-50C) and 10µg (GR1002-10C)
Alternative Names	Macrophage colony stimulating factor, lanimostim, CSF-1, MCSF, and PG-M-CSF
Expression Source	Chinese Hamster Ovary (CHO) Cells
Species	Human
NCBI Gene ID	1435
UniProt	P09603
Product Form	Lyophilized powder

Product Description
<p><b>Human Recombinant Colony-Stimulating Factor 1 Protein (CSF1/M-CSF1)</b></p> <p>Human Colony Stimulating Factor 1 (CSF1), also known as Macrophage Colony-Stimulating Factor (M-CSF), is a secreted cytokine that plays a crucial role in the differentiation of hematopoietic stem cells into macrophages and other related cell types. This growth factor is vital for the proliferation, differentiation, and survival of hematopoietic precursor cells, particularly mononuclear phagocytes like macrophages and monocytes [i]. By promoting the growth and activity of these key immune cells, CSF1 is essential for immune responses, tissue homeostasis, and inflammation regulation [iii].</p> <p>CSF1 stimulates various cellular functions in macrophages and monocytes, such as enhanced phagocytic and chemotactic activity, which contribute to immune defense and tissue repair. This factor interacts with the CSF1 receptor (CSF1R) or M-CSF-R on the cell surface, leading to the activation of signaling pathways that regulate cell proliferation and survival. The binding of CSF1 to its receptor triggers the dimerization of CSF1R, followed by autophosphorylation of tyrosine residues. This cascade of tyrosine phosphorylation activates multiple downstream signaling events that drive macrophage differentiation and function.</p> <p>The active form of CSF1 exists extracellularly as a disulfide-linked homodimer, produced through proteolytic cleavage of membrane-bound precursors. This form of CSF1 is often used in research as an Fc-fusion protein tag from human IgG1 to enhance stability and improve therapeutic potential.</p> <p><b>Product Specifications:</b></p> <ul style="list-style-type: none"> <li>Form: Lyophilized powder</li> <li>Available Sizes:</li> </ul>

SDS-PAGE
 <p>The image shows an SDS-PAGE gel. On the left is a molecular weight marker lane with multiple bands. To its right is a lane labeled 'Fc-CSF1 Sample' which contains a single, prominent blue band. A label '44.2 kDa -' points to the position of this band.</p>

FOR RESEARCH APPLICATIONS ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

<ul style="list-style-type: none"> <li>○ 10µg (SKU: GR1002-10) Human Colony Stimulating Factor 1 (CSF1)</li> <li>○ 50µg (SKU: GR1002-50) Human Colony Stimulating Factor 1 (CSF1)</li> <li>○ 100µg (SKU: GR1002-100) Human Colony Stimulating Factor 1 (CSF1)</li> </ul> <ul style="list-style-type: none"> <li>● Storage: Store at -20°C, avoid repeated freeze-thaw cycles</li> </ul> <p><b>Research Applications:</b></p> <ul style="list-style-type: none"> <li>● Hematopoietic stem cell differentiation</li> <li>● Macrophage differentiation and activation</li> <li>● Immunology and inflammation research</li> <li>● Cancer immunotherapy studies</li> <li>● Tissue repair and wound healing</li> </ul> <p><b>Shipping &amp; Storage:</b></p> <ul style="list-style-type: none"> <li>● Shipping: Shipped with ice packs to maintain stability during transport</li> <li>● Storage Recommendation: Store lyophilized powder at -20°C for long-term storage</li> </ul> <p>CSF1 is an essential tool in research focused on macrophage biology, immune responses, and hematopoiesis. Its applications in disease modeling, immunotherapy, and regenerative medicine make it a valuable resource for exploring immune regulation, cancer immunotherapy, and tissue repair.</p>
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Technical Specifications		
Construct Detail	388-amino acid protein consisting of Glu33 to Gln181 region of CSF1	
Source	CHO stable cell line expressing fc-tagged CSF1 growing in chemically defined media with no animal component or antibiotics	
Protein Sequence	EEVSEYCSHMIGSGHLQSLQRLIDSQMETSCQITFEFVDQEQLKDPVCYLKKAFLLVQDIMEDTMRFRDNTNPNAIAIVQLQELSLRLKSCFTKDYEE HDKACVRTFYETPLQLLEKVKNVFNETKNLLDKDWNIFSKNCNNSFAECSSQGSGTSTENLYFQSGTGTHTCPPCPAPELLGGPSVFLFPPKPKDTL MISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQK SLSLSPGK	
Formulation	10 x PBS pH 7.4	
Molecular Weight	SDS-PAGE	44.2kDa
Purity	SDS-PAGE	>95%
Endotoxin	LAL	<1 EU/µg
Bioactivity (Species)	DATA PENDING	DATA PENDING

Preparation Instructions	
Shipping Temperature	Ambient temperature
Formulation	10 x PBS pH 7.4
Reconstitution	Briefly centrifuge the vial before opening. The protein should be reconstituted in sterile 1xPBS pH 7.4 containing 0.1% endotoxin-free recombinant human serum albumin (HSA).

Storage and Stability		
	Temperature	Storage Time
Lyophilized Form	-20°C to -80°C	Until expiration date
Lyophilized Form	Room temperature	Two weeks
Reconstituted Form	-20°C to -80°C	Six months

