

Active Recombinant Human CSF1R protein, Fc/Avi-tagged, Biotinylated

Cat. No. CSF1R-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human CSF1R(Ile20-Thr516) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Ile20-Thr516
Description	CSF1R is a member of the type III subfamily of receptor tyrosine kinases that also includes receptors for SCF and PDGF. These receptors each contain five immunoglobulin-like domains in their extracellular domain (ECD) and a split kinase domain in their intracellular region (1-4). M-CSF receptor is expressed primarily on cells of the monocyte/macrophage lineage, dendritic cells, stem cells and in the developing placenta (1). Human M-CSF receptor cDNA encodes a 972 amino acid (aa) type I membrane protein with a 19 aa signal peptide, a 493 aa extracellular region containing the ligand-binding domain, a 25 aa transmembrane domain and a 435 aa cytoplasmic domain. The human M-CSF R ECD shares 60%, 64%, 72%, 75%, 75% and 76% aa identity with mouse, rat, bovine, canine, feline and equine M-CSF R, respectively. Activators of protein kinase C induce TACE/ADAM17 cleavage of the M-CSF receptor, releasing the functional ligand-binding extracellular domain (5). M-CSF binding induces receptor homodimerization, resulting in transphosphorylation of specific cytoplasmic tyrosine residues and signal transduction

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(6). The intracellular domain of activated M-CSF R binds more than 150 proteins that affect cell proliferation, survival, differentiation and cytoskeletal reorganization. Among these, PI3Kinase, P42/44 ERK and c-Cbl are key transducers of M-CSF R signals (3, 4). M-CSF R engagement is continuously required for macrophage survival and regulates lineage decisions and maturation of monocytes, macrophages, osteoclasts and DC (3, 4). M-CSF R and integrin alpha v beta 3 share signaling pathways during osteoclastogenesis and deletion of either causes osteopetrosis (7, 8). In the brain, microglia expressing increased M-CSF R are concentrated with Alzheimers a beta peptide, but their role in pathogenesis is unclear (9, 10).

Predicted N Terminal	Ile20
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	The biotin to protein ratio is greater than 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA. When Human CSF1R is immobilized at 1 µg/mL (100 µL/well), it binds to Biotinylated Recombinant Human CSF1R Fc Chimera Avi-tag with an ED50 of 6-36 ng/mL.
Molecular Mass	100-120 kDa, under reducing conditions
Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Bioactivity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from

date of receipt, -20 to -70 °C as supplied.1 month, 2 to 8 °C under sterile conditions after reconstitution.3 months, -20 to -70 °C under sterile conditions after reconstitution.

Reconstitution Reconstitute at 500 µg/mL in PBS.

Conjugation Biotin

GENE INFORMATION

Gene Name CSF1R colony stimulating factor 1 receptor [Homo sapiens]

Official Symbol CSF1R

Synonyms CSF1R; colony stimulating factor 1 receptor; FMS, McDonough feline sarcoma viral (v fms) oncogene homolog; macrophage colony-stimulating factor 1 receptor; C FMS; CD115; CSFR; CSF-1-R; CD115 antigen; CSF-1 receptor; FMS proto-oncogene; proto-oncogene c-Fms; macrophage colony stimulating factor I receptor; McDonough feline sarcoma viral (v-fms) oncogene homolog; FMS; FIM2; HDLS; C-FMS; CSF-1R; M-CSF-R;

Gene ID 1436

mRNA Refseq NM_005211

Protein Refseq NP_005202

MIM 164770

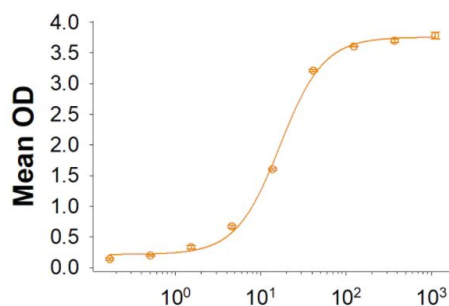
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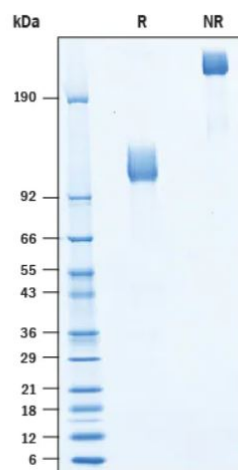
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Binding Activity



SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.