Catalog # CSR-H5543



#### Synonym

CSF1R,C-FMS,CD115,CSFR,FIM2,FMS,M-CSFR

### Source

Human M-CSF R Protein, His Tag(CSR-H5543) is expressed from Baculovirus-Insect cells. It contains AA Lys 539 - Cys 972 (Accession # <u>P07333-1</u>). Predicted N-terminus: His

# Molecular Characterization

M-CSF R(Lys 539 - Cys 972) Poly-his P07333-1

This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 50.6 kDa. The protein migrates as 47-50 kDa when calibrated against <u>Star Ribbon Pre-stained Protein Marker</u> under reducing (R) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 1.0 EU per  $\mu g$  by the LAL method.

## Purity

>90% as determined by SDS-PAGE.

### Formulation

Supplied as 0.2  $\mu$ m filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with glycerol as protectant.

Contact us for customized product form or formulation.

## Shipping

*This product is supplied and shipped with dry ice, please inquire the shipping cost.* 

### Storage

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

# **SDS-PAGE**



Human M-CSF R Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With <u>Star Ribbon Pre-stained Protein Marker</u>).

# Bioactivity

The M-CSF R assay is performed using the ADP-GloTM Kinase Assay kit which quantifies the amount of ADP produced by the M-CSF R reaction. The ADP- GloTM Reagent is added to terminate the kinase reaction and to deplete

the remaining ATP, and then the Kinase Detection Reagent is added to convert ADP to ATP and to measure the newly synthesized ATP using luciferase/luciferin reaction. The specific activity is >8 pmol/min/ $\mu$ g (QC tested).



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#### Background

Colony stimulating factor 1 receptor (CSF1R) is also known as macrophage colony-stimulating factor receptor (M-CSFR), CD115 Cluster of Differentiation 115 (CD115), C-FMS, CSFR, FIM2, FMS, and is a member of the typeIII subfamily of receptor tyrosine kinases (RTKs). CSF1R is a receptor for a cytokine called colony stimulating factor 1, The protein encoded by the CSFR1 gene is the receptor for colony stimulating factor 1, a cytokine which controls the production, differentiation, and function of macrophages. This receptor mediates most, if not all, of the biological effects of this cytokine. Ligand binding activates CSFR1 through a process of oligomerization and transphosphorylation . Mutations in CSF1R are associated with chronic myelomonocytic leukemia and type M4 acute myeloblastic leukemia. Increased levels of CSF1R1 are found in microglia in Alzheimer's disease and after brain injuries. The increased receptor expression causes microglia to become more active. Both CSF1R, and its ligand colony stimulating factor 1 play an important role in the development of the mammary gland and may be involved in the process of mammary gland carcinogenesis.

### **Clinical and Translational Updates**



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