# Recombinant Human CSF1R/CD115 Protein (aa 1-512, His Tag)

**Catalog Number: PKSH031819**

**Note:** *Centrifuge before opening to ensure complete recovery of vial contents.*

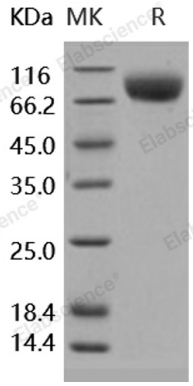
## Description

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| **Species** | Human |
| **Source** | HEK293 Cells-derived Human CSF1R/CD115 protein Met 1-Glu512, with an C-terminal His |
| **Calculated MW** | 56.0 kDa |
| **Observed MW** | 85-95 kDa |
| **Accession** | NP_005202.2 |
| **Bio-activity** | 1. Immobilized human CSF1R at 10 μg/mL (100 μl/well) can bind biotinylated human CSF-1, The $EC_{50}$ of biotinylated human CSF-1 is 8 ng/mL.<br>2. Measured by its ability to inhibit the human CSF-induced proliferation of M- NFS-60 mouse myelogenous leukemia lymphoblast cells. The $ED_{50}$ for this effect is typically 6-30 μg/mL in the presence of 3 ng/ml Recombinant Human M-CSF. |

## Properties

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|---|---|
| **Purity** | > 98 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 1.0 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4<br>Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 98 % as determined by reducing SDS-PAGE.

## Background

M-CSFR encoded by the proto-oncogene c-fms is the receptor for colony stimulating factor 1 (CSF1R), a cytokine involved in the proliferation, differentiation, and activation of macrophages. This cell surface glycoprotein is consisted by an extracellular ligand-binding domain, a single membrane-spanning segment, and an intracellular tyrosine kinase domain. Binding of CSF1 activates the receptor kinase, leading to "autophosphorylation" of receptor subunits and the concomitant phosphorylation of a series of cellular proteins on tyrosine residues. CSF1R is a tyrosine kinase receptor that is absolutely required for macrophage differentiation and thus occupies a central role in hematopoiesis. CSF1 and its receptor (CSF1R, product of c-fms proto-oncogene) were initially implicated as essential for normal monocyte development as well as for trophoblastic implantation. This apparent role for CSF1/CSF1R in normal mammary gland development is very intriguing because this receptor/ligand pair has also been found to be important in the biology of breast cancer in which abnormal expression of CSF1 and its receptor correlates with tumor cell invasiveness and adverse clinical prognosis. Tumor cell expression of CSF1R is under the control of several steroid hormones (glucocorticoids and progestins) and the binding of several bHLH transcription factors, while tumor cell expression of CSF-1 appears to be regulated by other hormones, some of which are involved in normal lactogenic differentiation.


Toll-free: 1-888-852-8623
Tel: 1-832-243-6086
Fax: 1-832-243-6017
Web: www.elabscience.com
Email: techsupport@elabscience.com