

## Recombinant Rhesus CSF1R Protein (Met1-Glu512) (Cys378Arg), HlgG1 Fc-tagged

**Cat. No.** CSF1R-979R    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b>Product Overview</b> | Recombinant Rhesus CSF1R Protein (XP_001107711.3) (Met1-Glu512, with mutation Cys 378 Arg) was produced by HEK293 Cells expression system. This protein was expressed with the Fc region of human IgG1 at the C-terminus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Species</b>          | Rhesus macaque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Source</b>           | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Protein Length</b>   | Met1-Glu512                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | 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 |

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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. However, studies have demonstrated that CSF1 and CSF1R have additional roles in mammary gland development during pregnancy and lactation. The role of CSF1 and CSF1R in normal and neoplastic mammary development that may elucidate potential relationships of growth factor-induced biological changes in the breast during pregnancy and tumor progression.

|                             |                                                                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predicted N Terminal</b> | Ile 20                                                                                                                                                                         |
| <b>Form</b>                 | Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.                                 |
| <b>Molecular Mass</b>       | The recombinant rhesus CSF1R consists of 731 amino acids and predicts a molecular mass of 81.3 kDa.                                                                            |
| <b>Endotoxin</b>            | < 1.0 EU per µg protein as determined by the LAL method.                                                                                                                       |
| <b>Purity</b>               | > 95 % as determined by SDS-PAGE.                                                                                                                                              |
| <b>Stability</b>            | Samples are stable for up to twelve months from date of receipt at -70 centigrade.                                                                                             |
| <b>Storage</b>              | Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| <b>Reconstitution</b>       | It is recommended that sterile water be added to the vial to prepare a stock solution of                                                                                       |

0.2 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.

**Shipping**

In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.

Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

**GENE INFORMATION**

|                 |                                                                                      |
|-----------------|--------------------------------------------------------------------------------------|
| Gene Name       | CSF1R colony stimulating factor 1 receptor [ <i>Macaca mulatta</i> (Rhesus monkey) ] |
| Official Symbol | CSF1R                                                                                |
| Gene ID         | 711512                                                                               |
| mRNA Refseq     | XM_001107711                                                                         |
| Protein Refseq  | XP_001107711                                                                         |

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