**CSF1R / MCSF Receptor / CD115 Antibody, Mouse MAb**

**Catalog Number:** 10161-MM12

<table>
<thead>
<tr>
<th>General</th>
<th>Information</th>
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<tbody>
<tr>
<td><strong>Immunogen:</strong></td>
<td>Recombinant Human MCSFR / CD115 protein (Catalog#10161-H08H)</td>
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<tr>
<td><strong>Clone ID:</strong></td>
<td>1A7C1G11</td>
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<tr>
<td><strong>Ig Type:</strong></td>
<td>Mouse IgG1</td>
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<tr>
<td><strong>Applications:</strong></td>
<td>ELISA</td>
</tr>
<tr>
<td><strong>Specificity:</strong></td>
<td>Human JAM-A / PAM-1 / CD321</td>
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<tr>
<td><strong>Formulation:</strong></td>
<td>0.2 μm filtered solution in PBS</td>
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<tr>
<td><strong>Storage:</strong></td>
<td>&lt; -20°C</td>
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### Preparation

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, recombinant Human M-CSFR extracellular domain (rh M-CSFR; Catalog#10161-H08H; Met 1-Glu 512; NP_055202.2). The IgG fraction of the cell culture supernatant was purified by Protein A affinity chromatography.

### Applications

**Direct ELISA** – This antibody can be used at 0.5-1 μg/mL with the appropriate secondary reagents to detect Human MCSFR. The detection limit for Human MCSFR is approximately 0.0195 ng/well.

**Specificity**

Human JAM-A / PAM-1 / CD321

**No cross-reactivity** in ELISA with

- Human GCSFR / CSF3R / CD114
- Human GMCSFR-alpha / CSF2RA / CD116
- Human PDGFR-beta / CD140b

### Storage

This antibody can be stored at 2°C-8°C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20°C to -80°C. **Preservative-Free.** Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be disposed of properly. **Avoid repeated freeze-thaw cycles.**

### Background

M-CSF 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. 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.

### Reference


