Product Information
Material Number: 565368
Alternate Name: CSF-1R; CSF1R; C-FMS; FMS; FIM2
Size: 100 Tests
Vol. per Test: 5 µl
Clone: 9-4D2-1E4 (also known as 9-4D2)
Immunogen: Human CD115 Transfected Cell Line
Isotype: Rat IgG1, κ
Reactivity: QC Testing: Human
Workshop: V MA199
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description
The 9-4D2-1E4 monoclonal antibody specifically binds to CD115 which is also known as Colony stimulating factor 1 receptor (CSF-1R) or Macrophage colony-stimulating factor 1 receptor (M-CSFR). This type I transmembrane glycoprotein is a receptor tyrosine kinase (RTK) that belongs to the Ig superfamily. It is expressed on a variety of cells including those committed to the mononuclear phagocyte lineage, such as, monocytes, macrophages, and osteoclasts. CSF-1 binds to and signals through CSF-1R homodimers which undergo tyrosine autophosphorylation and transduce downstream signaling pathways resulting in cytoskeletal reorganization and gene expression. CSF-1R activation stimulates the proliferation, differentiation, and survival of cells within the mononuclear phagocyte system. Acting through CD115, CSF-1 induces macrophage spreading and motility, and in combination with RANKL, CSF-1 drives the differentiation of mononuclear phagocytes to become osteoclasts. Interleukin-34 (IL-34) is another ligand for CD115 that can induce similar, as well as, some different biological responses by CD115-positive target cells.

Preparation and Storage
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes
Flow cytometry Routinely Tested

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565368 Rev. 1
Recommended Assay Procedure:

Note: Please maintain cells around 4°C throughout the staining and analysis procedures for best results.

Suggested Companion Products

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<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tbody>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>553925</td>
<td>PE Rat IgG1, κ Isotype Control</td>
<td>0.1 mg</td>
<td>R3-34</td>
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<tr>
<td>555899</td>
<td>Lysing Buffer</td>
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<td>(none)</td>
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Product Notices
1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References
Li W, Stanley ER. Role of dimerization and modification of the CSF-1 receptor in its activation and internalization during the CSF-1 response. EMBO J. 1991; 10(2):277-288. (Biology)