Product Information

Material Number: 564044
Alternate Name: CSF2RA; GM-CSF Receptor alpha; GM-CSFRα; GMCSFRA; GMR, SMDP4
Size: 50 µg
Concentration: 0.2 mg/ml
Clone: hGMCSFR-M1
Immunogen: Recombinant human GM-CSFR
Isotype: Mouse IgG1, κ
Reactivity: QC Testing: Human
Workshop: V C007
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The hGMCSFR-M1 antibody reacts with the subunit (GM-CSFR) of the human Granulocyte-Macrophage Colony-Stimulating Factor Receptor complex. This 75-85 kD subunit is also known as CD116. The hGMCSFR-M1 antibody was first clustered at the Fifth International Workshop on Human Leucocyte Differentiation Antigens. The GM-CSFR subunit associates with the 120-140 kD βc subunit (common subunit, CD131), that is shared with the receptors for interleukins IL-3 and IL-5. Both of the chains of the GM-CSFR complex are involved in ligand binding and intracellular signaling. The α chain appears to transmit most of the biological signals. CD116 is expressed by a variety of myeloid cell lines, hematopoietic and non-hematopoietic tumor cells, and normal cell types including monocytes, macrophages, neutrophils, eosinophils, myeloid dendritic cells, endothelial cells, fibroblasts, and placent al trophoblasts. Lymphocytes are negative for GM-CSFR expression. Reports suggest that GM-CSFR plays a role in myeloid lineage growth and differentiation. The immunogen used to generate the hGMCSFR-M1 hybridoma was recombinant human GM-CSFR.

The antibody was conjugated to BD Horizon™ BV650 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Two-parameter flow cytometric analysis of CD116 expression on human peripheral blood leucocytes. Human peripheral blood was treated with PharmLyse™ Lysing Buffer (Cat. No. 555899) to lyse erythrocytes prior to staining. The leucocytes were then preincubated with purified normal human polyclonal IgG (5 µg/10⁶ cells) and stained with either BD Horizon™ BV650 Mouse IgG1, κ Isotype Control (Cat. No. 563231; Left Panel) or BD Horizon BV650 Mouse Anti-Human CD116 antibody (Cat No. 564044; Right Panel). Two parameter flow cytometric contour plots showing the correlated expression of CD116 (or Ig Isotype control staining) versus side-light scatter (SSC) signals were derived from events with the forward and side light-scatter characteristics of viable leucocyte populations. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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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 BD Horizon™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 were removed.

Application Notes

Application

| Flow cytometry | Routinely Tested |

Recommended Assay Procedure:

Note: Certain human cell lines or cell types (e.g., neutrophils, monocytes) can first be treated with reagents that block receptors for the Fc regions of immunoglobulin to avoid nonspecific immunofluorescent staining mediated by Fc receptors.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349).

Suggested Companion Products

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<tr>
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<td>566349</td>
<td>Brilliant Stain Buffer</td>
<td>1000 Tests</td>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. BD Horizon Brilliant Violet 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.

References


Kubota T, Mukai K, Minegishi Y, Karasuyama H. Different stabilities of the structurally related receptors for IgE and IgG on the cell surface are determined by length of the stalk region in their alpha-chains. J Immunol. 2006; 176(1):706-14. (Biology)


