BB515 Mouse Anti-Human CD140a

Product Information
Material Number: 564594
Alternate Name: PDGF Receptor α; PDGFRα; PDGFR-α; PDGFR2; PGFRA; RHEPDGR
Size: 50 Tests
Vol. per Test: 5 µl
Clone: αR1 (also known as Alpha-R1)
Immunogen: Human PDGFRα Transfected Cell Line
Isotype: Mouse (BALB/c) IgG2a, κ
QC Testing: Human Reactivity:
Workshop: VI E031, BP229
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description
The αR1 monoclonal antibody specifically binds to the human platelet derived growth factor (PDGF) receptor α (PDGFRα), also known as CD140a. CD140a is a 170 kDa single transmembrane glycoprotein expressed on fibroblasts, smooth muscle cells, glial cells and chondrocytes. PDGF receptors α and β are single glycoproteins with intracellular tyrosine kinase domains. They are structurally similar to the M-CSF receptor and CD117 (c-kit). Their ligand, PDGF, is a mitogen for connective tissue cells and glial cells. PDGF plays a role in wound healing and it also acts as a chemoattractant for fibroblasts, smooth muscle cells, glial cells, monocytes and neutrophils. Functional PDGF is secreted in disulfide linked, homodimeric or heterodimeric forms comprised of A or B chains (PDGFAA, PDGF-BB or PDGF-AB). Binding of divalent PDGF induces receptor dimerization with three possible forms: αα, αβ, ββ. The PDGFRα subunit binds both PDGF A and B chains, whereas the PDGFRβ subunit binds only PDGF B chains. Although both receptor subunits can stimulate mitogenic responses, only the β subunit can induce chemotaxis. The αR1 antibody is specific for PDGFRα and does not crossreact with PDGFRβ. It immunoprecipitates human, monkey, rabbit, pig, dog and cat PDGFRα. It does not recognize hamster, rat or mouse PDGFRα.

The antibody was conjugated to BD Horizon BB515 which was developed exclusively by BD Biosciences. With an excitation max of 490 nm and an emission max of 515 nm, BD Horizon BB515 can be excited by the 488 nm laser and detected in a standard FITC set (eg, 530/30-nm filter). This dye provides a much brighter alternative to FITC with less spillover into the PE detector.

Flow cytometric analysis of CD140a expression on the human MG-63 cell line. Cells from the human MG-63 (Osteosarcoma, ATCC CRL-1427) cell line were stained with either BD Horizon™ BB515 Mouse mIgG2a, κ Isotype Control (Cat. No. 564515; dashed line histogram) or BD Horizon BB515 Mouse Anti-Human CD140a antibody (Cat. No. 564594; solid line histogram). The fluorescence histogram showing CD140a expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometric analysis was performed using a BD LSR™ II Flow Cytometry System.

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™ BB515 under optimum conditions and unconjugated antibody was removed.

Application Notes
Application
Flow cytometry Routinely Tested
Recommended Assay Procedure:
For optimal results, it is recommended to perform 2 washes after staining with antibodies. Cells may be prepared, stained with antibodies and washed twice with wash buffer per established protocols for immunofluorescent staining, prior to acquisition on a flow cytometer. Performing fewer than the recommended wash steps may lead to increased spread of the negative population.

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
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<tr>
<td>564515</td>
<td>BB515 Mouse IgG2a, κ Isotype Control</td>
<td>50 µg</td>
<td>G155-178</td>
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<tr>
<td>563794</td>
<td>Brilliant Stain Buffer</td>
<td>5 mL</td>
<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 × 10⁶ 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. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications. This product, and only in the amount purchased by buyer, may be used solely for buyer’s own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. Diagnostic uses require a separate license.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References
Bazenet CE, Kazlauskas A. The PDGF receptor alpha subunit activates p21ras and triggers DNA synthesis without interacting with rasGAP. Oncogene. 1993; 9(2):517-525. (Biology)