BV650 Mouse Anti-Rat CD90/Mouse CD90.1

Product Information

Material Number: 563771
Alternate Name: Rat Thy-1; Mouse Thy-1.1
Size: 50 µg
Concentration: 0.2 mg/ml
Clone: OX-7 (also known as OX7)
Immunogen: Rat Thymocyte Thy-1 Antigen
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: QC Testing: Rat
Tested in Development: Mouse
Reported Reactivity: Rabbit, Guinea Pig
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

CD90 (Thy-1) is a GPI-anchored membrane glycoprotein of the Ig superfamily which is involved in signal transduction. The OX-7 monoclonal antibody specifically binds to rat CD90 reported to be expressed by hematopoietic stem cells, early myeloid and erythroid cells, immature B lymphocytes in the bone marrow and peripheral lymphoid organs, thymocytes, recent thymic emigrants (a subset of CD45RC-negative T lymphocytes), neurons, glomerular mesangial cells, endothelium at inflammatory sites, mast cells, and dendritic cells. Rat dendritic epidermal T cells (DEC) have been reported to be CD90 (Thy-1) negative, unlike those of the mouse.

The OX-7 clone has been reported to crossreact with the mouse CD90.1 (Thy-1.1) alloantigen of the AKR/J and PL strains, but not CD90.2 (Thy-1.2) found on many mouse strains. In the mouse, CD90 is found on thymocytes, most peripheral T lymphocytes, some intraepithelial T lymphocytes (IEL, DEC), hematopoietic stem cells, and neurons, but not B lymphocytes. In addition, there is evidence that CD90 mediates adhesion of mouse thymocytes to mouse thymic stroma. The OX-7 clone has also been reported to crossreact with rabbit and guinea pig thymus, brain, and intestine.

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-color flow cytometric analysis of CD90 expression on rat splenocytes. Lewis rat splenic leucocytes were stained with BD Horizon™ BV650 Mouse Anti-Rat CD90 (Cat. No. 563771) and FITC Rat Anti-Mouse CD3 (Cat. No. 554832/559975) antibodies. A two-color flow cytometric dot plot showing the correlated expression of CD90 versus CD3 was derived from gated events with the forward and side light-scatter characteristics of viable leucocytes. 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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 were removed.

Application Notes

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<thead>
<tr>
<th>Application</th>
<th>Routinely Tested</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
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Suggested Companion Products

<table>
<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>
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<tr>
<td>563231</td>
<td>BV650 Mouse IgG1, k Isotype Control</td>
<td>50 µg</td>
<td>X40</td>
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<tr>
<td>554832</td>
<td>FITC Mouse Anti-Rat CD3</td>
<td>0.5 mg</td>
<td>G4.18</td>
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<tr>
<td>559975</td>
<td>FITC Mouse Anti-Rat CD3</td>
<td>0.1 mg</td>
<td>G4.18</td>
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<tr>
<td>555999</td>
<td>Lysing Buffer</td>
<td>100 ml</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. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. Brilliant Violet™ 650 is a trademark of Sirigen.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References
Garrett D, Barclay AN, Camro AM, Beyers AD. The association of the protein tyrosine kinases p56lck and p60fyn with the glycosyl phosphatidylinositol-anchored proteins Thy-1 and CD45 in rat thymocytes is dependent on the state of cellular activation. *Eur J Immunol.* 1993; 23(10):2540-2544. (Clone-specific: Immunoprecipitation)