Technical Data Sheet

Purified Rat Anti-Mouse CD44

Product Information

Material Number: 550538
Alternate Name: Pgp-1, H-CAM, Ly-24
Size: 1.0 ml
Concentration: 62.5 µg/ml
Clone: IM7
Immunogen: Dexamethasone-induced cells of the SJL mouse spontaneous myeloid leukemia M1
Isotype: Rat IgG2b, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide.

Description

The IM7 antibody reacts with an epitope on both alloantigens and all isoforms of the CD44 glycoprotein (Pgp-1, Ly-24). The standard form of CD44, lacking variable exons and referred to as CD44H or CD44s, is widely expressed on hematopoietic and non-hematopoietic cells. CD44 isoforms encoded by variable exons are expressed on epithelial cells, but only at low levels on most leukocytes. Mice with the Ly-24.1 alloantigen (e.g., BALB/c, CBA/J, DBA/1, DBA/2) have relatively large subsets of CD44H+ T lymphocytes, while Ly-24.2 strains (e.g., A, AKR, CBA/N, C3H/He, C57BL, C57BR, C57L, C58, NZB, SJL, SWR, 129) have few CD44H+ T cells. CD44 is a cell adhesion receptor, and its principal ligand, hyaluronate, is a common component of extracellular matrices. Differential glycosylation of CD44 influences its binding to hyaluronate. Additional ligands include the cell-surface form of CD74 and the cytokine osteopontin (Eta-1). Bone marrow- and thymus-derived progenitor cells capable of repopulating the thymus express CD44. In the periphery, the level of CD44 expression increases upon activation of B lymphocytes, CD4+ T cells, and CD8+ T cells; memory cells can be recognized by their CD44[hi] phenotype. The IM7 mAb inhibits established collagen-induced arthritis in DBA/1 mice. Moreover, it prevents CNS inflammation and clinical symptoms of experimental autoimmune encephalomyelitis. In contrast, the same antibody exacerbates experimental autoimmune thyroiditis in CBA/J mice. The IM7 mAb recognizes a different epitope from that recognized by mAb KM114 (Cat. No. 558739), and the antibody pair can be used in ELISA to detect soluble CD44. It has been observed that IM7 antibody cross-reacts with human, dog, cat, horse, cow, and pig leukocytes. Anti-human CD44, clone G44-26 (Cat. No. 555476), and IM7 antibody compete for binding to human peripheral blood lymphocytes.

Preparation and Storage

Store undiluted at 4°C.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Readily Tested</th>
<th>Routinely Tested</th>
<th>Tested During Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow cytometry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immunohistochemistry-frozen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immunohistochemistry-formalin (antigen retrieval required)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BD Biosciences

For country contact information, visit bdbiosciences.com/contact

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or convey any right to sell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company © 2011 BD
Recommended Assay Procedure:

**Immunohistochemistry:** The IM7 antibody specific for mouse CD44 is recommended to test for immunohistochemical staining of formalin-fixed paraffin and acetone-fixed frozen sections. Antigen retrieval with BD Retrievagen A (Cat. No. 550524) is required for formalin-fixed paraffin sections. Tissues tested were mouse spleen and thymus. The antibody stains epithelial cell and T and B lymphocytes. The isotype control recommended for use with this antibody is purified IgG2b (Cat. No. 559478). For optimal indirect immunohistochemical staining, the IM7 antibody should be titrated (1:10 to 1:50 dilution) and visualized via a three-step staining procedure in combination with biotin conjugated anti-rat IgG2b (Cat. No. 550327) as the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB detection system (Cat. No. 550880).

A detailed protocol of the immunohistochemical procedure is available at our website, http://www.bdbiosciences.com/support/resources

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>550524</td>
<td>Retrievagen A (pH 6.0)</td>
<td>1000 ml</td>
<td>(none)</td>
</tr>
<tr>
<td>559478</td>
<td>Purified Rat IgG2b, κ Isotype Control</td>
<td>0.25 mg</td>
<td>A95-1</td>
</tr>
<tr>
<td>550327</td>
<td>Biotin Mouse Anti-Rat IgG2b</td>
<td>1.0 ml</td>
<td>G15-337</td>
</tr>
<tr>
<td>550880</td>
<td>DAB Substrate Kit</td>
<td>500 tests</td>
<td>(none)</td>
</tr>
<tr>
<td>550946</td>
<td>Streptavidin HRP</td>
<td>50 ml</td>
<td>(none)</td>
</tr>
<tr>
<td>559148</td>
<td>Antibody Diluent for IHC</td>
<td>125 ml</td>
<td>(none)</td>
</tr>
</tbody>
</table>

**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.

**References**