Purified Rat Anti-Mouse CD44

Product Information

Material Number: 550538
Alternate Name: Pgp-1; Ly-24; H-CAM; HERMES; ECMR-III; Hyaluronate Receptor
Size: 1 mL
Concentration: 62.5 µg/ml
Clone: IM7
Immunogen: Dexamethasone-induced, SJL mouse spontaneous myeloid leukemia M1 cells
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 specifically recognizes 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, C57BL, C57BR, C57L, C58, NZB, SJL, SWR, 129) have fewer 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, and the antibody pair can be used in ELISA to detect soluble CD44. It has been observed that IM7 antibody crossreacts with human, dog, cat, horse, cow, and pig leukocytes. Anti-human CD44, clone G44-26, 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

Application
Flow cytometry Routinely Tested
Immunohistochemistry-frozen Tested During Development
Immunohistochemistry-formalin (antigen retrieval required) Tested During Development

BD Biosciences

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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 rat 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 IgG 2B (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

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<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tr>
<td>550524</td>
<td>Retrievagen A (pH 6.0)</td>
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<td>559478</td>
<td>Purified Rat IgG2b, x Isotype Control</td>
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<td>550327</td>
<td>Biotin Mouse Anti-Rat IgG2b</td>
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<td>550880</td>
<td>DAB Substrate Kit</td>
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<td>550946</td>
<td>Streptavidin HRP</td>
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<tr>
<td>559148</td>
<td>Antibody Diluent for IHC</td>
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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