Technical Data Sheet

Purified Rat Anti-Pig γδ T Lymphocytes

Product Information

Material Number: 551543
Size: 0.1 mg
Concentration: 0.5 mg/ml
Clone: MAC320
Immunogen: Null T cells purified from the blood of young pigs
Isotype: Rat (PVG) IgG2a, κ
Reactivity: QC Testing: Pig
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The MAC320 antibody monoclonal antibody specifically binds to the 270- and 280-kDa isoforms of the SWC6 heterodimer expressed on Null T cells. These cells form a unique population of CD2-, surface Ig-, and thymus-dependent nylon wool-nonadherent peripheral blood lymphocytes found at high frequencies in young pigs. Null T cells are also CD4- and CD8-, and the majority of them express γδ T-cell receptors (TCR). In addition to peripheral blood, MAC320+ leukocytes (CD2- γδ T cells) are found in the thymus, especially in the medulla and in the marginal zone and red pulp of the spleen. They are rare in normal lymph nodes, tonsils, Peyer's patches, bone marrow, and skin. An additional population of MAC320+ CD2+ γδ T cells is found in the blood and spleen. The MAC320 antibody does not react with pig erythrocytes, monocytes, or granulocytes, nor with cow, sheep, or human lymphocytes.

Two-color analysis of pig peripheral blood γδ T lymphocytes. Pig whole blood was stained with either purified rat IgG2a, κ isotype control mAb R35-95 (Cat. no. 553927, left panel) or purified mAb MAC320 (center and right anels), followed by biotinylated mouse anti-rat IgG2a mAb RG7/1.30 (Cat. no. 553894, all panels) then Streptavidin-PE (Cat. no. 554061, all panels). In the right panel, anti-pig γδ TCR mAb PGBL22A (VMRD, Pullman, WA) was added in a fourth staining step, followed by FITC-conjugated rat anti-mouse IgG1 mAb A85-1. Erythrocytes were lysed (PharM Lyse™, Cat. no. 555899), non-viable leukocytes were excluded by staining with 7-AAD (Via-Probe™, Cat. no. 555816/555815), and lymphocytes were gated according to their ligh-scatter profile. Flow cytometry was performed on a FACSCalibur™ (BD Biosciences, San Jose, CA). The right panel demonstrates that MAC320+ cells express the gd TCR and that there are MAC320+ and MAC320- subpopulations of γδ TCR-bearing T lymphocytes in the blood.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at 4°C.

Application Notes

Application

Flow cytometry Routinely Tested
Immunoprecipitation Reported
Immunohistochemistry-frozen Reported
Cytotoxicity Not Recommended

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>553927</td>
<td>Purified Rat IgG2a, κ Isotype Control</td>
<td>0.5 mg</td>
<td>R35-95</td>
</tr>
<tr>
<td>553894</td>
<td>Biotin Mouse Anti-Rat IgG2a</td>
<td>0.5 mg</td>
<td>RG7/1.30</td>
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Product Notices
1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
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.

References
Binns RM, Duncan IA, Powis SJ, Hutchings A, Butcher GW. Subsets of null and gamma delta T-cell receptor+ T lymphocytes in the blood of young pigs identified by specific monoclonal antibodies. Immunology. 1992 October; 77(2):219-227. (Immunogen: Cytotoxicity, Immunoprecipitation)
Yang H, Parkhouse RM. Phenotypic classification of porcine lymphocyte subpopulations in blood and lymphoid tissues. Immunology. 1996; 89(1):76-83. (Biology)