Technical Data Sheet

Purified Rat Anti-Mouse Ly-6A/E

Product Information

Material Number: 553333
Alternate Name: Sca-1
Size: 0.5 mg
Concentration: 0.5 mg/ml
Clone: E13-161.7
Immunogen: BALB/c mouse-derived "pre-T" cell hybridoma
Isotype: Rat (W) IgG2a, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The E13-161.7 antibody reacts with Ly-6A.2 and Ly-6E.1, which are allelic members of the Ly-6 multigene family. Sca1 (Ly-6A/E), a phosphatidylcholine-containing protein of about 18 kDa, is expressed on the multipotential hematopoietic stem cell (HSC) in mice with both Ly-6 haplotypes. Sca1-1 HSC are found in the adult bone marrow and fetal liver, but not in the early embryo yolk sac or intraembryonic hematopoietic sites, and can be mobilized to the peripheral blood and spleen in the adult. In mice expressing the Ly-6.2 haplotype (e.g., AKR, C57BL, C57BR, C57L, C58, DBA/2, Pl, SJL, SWR, 129), Ly-6A/E is also expressed on distinct subpopulations of bone marrow and peripheral B lymphocytes, myeloid cells, and thymic and peripheral T lymphocytes, on the earliest intrathymic T-cell precursor population, and in several non-hematopoietic tissues. Strains with the Ly-6.1 haplotype (e.g., A, BALB/c, CBA, C3H/He, DBA/1, NZB) have few Ly-6A/E+ resting peripheral lymphocytes, whereas activation of T cells from mice of both Ly-6 haplotypes leads to strong expression of the Sca-1 antigen. Studies with the D7 antibody (Cat. No. 557403) have demonstrated that Ly-6A/E may be involved in the regulation of B and T lymphocyte responses, and it appears to be required for T-cell receptor-mediated T-cell activation. Purified E13-161.7 mAb can block binding of FITC-conjugated D7 antibody (anti-Ly-6A/E, Cat. No. 557405) to mouse splenocytes, but purified mAb D7 (Cat. No. 557403) is unable to block binding of FITC-conjugated E13-161.7 antibody (Cat. No. 553335). Anti-Ly-6A/E (Sca-1) mAb may be used in combination with the Mouse Lineage Panel (Cat. No. 559971) to identify HSC.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

Preparation and Storage

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

Store undiluted at 4°C.

Application Notes

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<thead>
<tr>
<th>Application</th>
<th>Routine Tested</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
<td>Routinely Tested</td>
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<tr>
<td>Cytotoxicity</td>
<td>Reported</td>
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<td>Immunohistochemistry-frozen</td>
<td>Reported</td>
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<tr>
<td>Immunoprecipitation</td>
<td>Reported</td>
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Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
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<th>Clone</th>
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</thead>
<tbody>
<tr>
<td>559971</td>
<td>Mouse Lineage Panel</td>
<td>1000 tests</td>
<td>(none)</td>
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<tr>
<td>554016</td>
<td>FITC Goat Anti-Rat Igs</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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<td>553927</td>
<td>Purified Rat IgG2a, κ Isotype Control</td>
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<td>R35-95</td>
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<tr>
<td>557405</td>
<td>FITC Rat Anti-Mouse Ly-6A/E</td>
<td>0.1 mg</td>
<td>D7</td>
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<tr>
<td>557403</td>
<td>Purified Rat Anti-Mouse Ly-6A/E</td>
<td>0.1 mg</td>
<td>D7</td>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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.

References


Jurecic R, Van NT, Belmont JW. Enrichment and functional characterization of Sca-1+WGAb, Lin-WGAb, Lin-Sca-1+, and Lin-Sca-1+WGAb bone marrow cells from mice with an Ly-6a haplotype. Blood. 1993; 82(9):2673-2683.


