**Monoclonal Antibodies Detecting Human Antigens**

**CD5 (L17F12)**

Research applications include studies of:
- T-lymphocytes in peripheral blood
- T-lymphocyte depletion by complement-mediated cytotoxicity for in vitro immunoregulation\(^1\)
- Characterization of leukemias and lymphomas\(^2-4\)
- B-lymphocyte subsets\(^1, 4-6\)

**DESCRIPTION**

**Specificity**

The CD5 antibody recognizes a human T-lymphocyte antigen, with a molecular weight of 67 kilodaltons (kDa).\(^7\)

**Antigen distribution**

The CD5 antigen is present on approximately 70% of normal peripheral blood lymphocytes and on virtually all T-lymphocytes in thymus and peripheral blood.\(^8-10\)

The CD5 antibody reacts with most cells in T-lymphocyte areas of spleen and lymph node and with many T-cell leukemias and lymphomas.\(^2, 3, 11\) It also reacts with a distinct subset of normal B-lymphocytes,\(^5\) occasional cells in B-lymphocyte areas of spleen and lymph node,\(^11\) and most Ig\(^+\) B-cell chronic lymphoblastic leukemia (B-CLL) cells.\(^3, 5\) Some lymphomas also express the CD5 antigen.\(^2\)

**Clone**

The CD5 antibody, clone L17F12,\(^8\) is derived from hybridization of NS-1/Ag4 mouse myeloma cells with spleen cells from BALB/c mice immunized with human T-cell acute lymphoblastic leukemia (T-ALL) cells.

**Composition**

The CD5 antibody is composed of mouse IgG\(_{2a}\) heavy chains and kappa light chains.

**Product configuration**

The following are supplied in phosphate buffered saline (PBS) containing a stabilizer and a preservative.

<table>
<thead>
<tr>
<th>Form</th>
<th>Number of tests</th>
<th>Volume per test (µL) (^a)</th>
<th>Amount provided (µg)</th>
<th>Total volume (mL)</th>
<th>Concentration (µg/mL)</th>
<th>Stabilizer</th>
<th>Preservative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure</td>
<td>200</td>
<td>20</td>
<td>50</td>
<td>4.0</td>
<td>12.5</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>FITC</td>
<td>100</td>
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<td>10</td>
<td>2.0</td>
<td>5</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>PE</td>
<td>100</td>
<td>20</td>
<td>12.5</td>
<td>2.0</td>
<td>6.25</td>
<td>Gelatin</td>
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</tr>
<tr>
<td>PerCP-Cy(^{TM})5.5</td>
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<td>1.0</td>
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<td>Gelatin</td>
<td>0.1% Sodium azide</td>
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<tr>
<td>PE-Cy(^{TM})7</td>
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<td>0.5</td>
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<td>Gelatin</td>
<td>0.1% Sodium azide</td>
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<tr>
<td>APC</td>
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<td>5</td>
<td>3</td>
<td>0.5</td>
<td>6</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
</tbody>
</table>

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PROCEDURE

Visit our website (bdbiosciences.com) or contact your local BD representative for the lyse/wash method for direct immunofluorescence.

**CAUTION** Some PE-Cy7 conjugates show changes in their emission spectra with prolonged exposure to paraformaldehyde or light. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

**CAUTION** Prolonged exposure of cells to paraformaldehyde can lead to increased autofluorescence in the violet channels. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

REPRESENTATIVE DATA

Flow cytometric analysis was performed on whole blood stained with the indicated conjugated antibody. Laser excitation was at 405 nm, 488 nm, and 635 nm. Representative data analyzed with a BD FACS™ brand flow cytometer is shown in the following plots.

<table>
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<tr>
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<th>Amount provided (µg)</th>
<th>Total volume (mL)</th>
<th>Concentration (µg/µL)</th>
<th>Stabilizer</th>
<th>Preservative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V450&lt;sup&gt;b&lt;/sup&gt;</td>
<td>100</td>
<td>5</td>
<td>12.5</td>
<td>0.5</td>
<td>25</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
</tbody>
</table>

<sup>a</sup> Volume required to stain 10<sup>6</sup> cells.

<sup>b</sup> BD Horizon™ V450

HANDLING AND STORAGE

Store vials at 2°C–8°C. Conjugated forms should not be frozen. Protect from exposure to light. Each reagent is stable until the expiration date shown on the bottle label when stored as directed.

WARNING

All biological specimens and materials coming in contact with them are considered biohazards. Handle as if capable of transmitting infection<sup>12,13</sup> and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing, eyewear and gloves.

CHARACTERIZATION

To ensure consistently high-quality reagents, each lot of antibody is tested for conformance with characteristics of a standard reagent.

Representative flow cytometric data is included in this data sheet.
WARRANTY

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REFERENCES


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