Monoclonal Antibodies
Detecting Human Antigens

CD103 (Ber-ACT8)

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

RESEARCH APPLICATIONS

Research applications include studies of:

- T lymphocytes in inflammatory lung diseases\(^1^,\(^2\)
- Hairy cell leukemia\(^3^,\(^8\)

DESCRIPTION

Specificity

The CD103 antibody recognizes the \(\alpha E\) subunit of integrin \(\alpha E\beta 7\), an integrin also known as the human mucosal lymphocyte (HML) antigen\(^1^,\(^6^,\(^9\) but not \(\alpha 4\), another member of the \(\beta 7\) integrin subfamily.\(^9\) Integrin \(\alpha E\beta 7\) is a trimeric protein complex of three components, 105 kilodaltons (kDa) (\(\beta 7\)), 150 kDa, and 25 kDa. The CD103 antibody recognizes an epitope localized on the 150-kDa chain.\(^7\)

Antigen distribution

The CD103 antigen is preferentially expressed on human intestinal intraepithelial lymphocytes (IELs).\(^4^,\(^5^,\(^10\) The CD103 antibody also reacts with most T cells present in the oral and bronchial mucosa.\(^1^,\(^2\) Most cases of hairy cell leukemia were found to be CD103\(^+\).\(^4^,\(^5^,\(^8\) The majority of the CD103\(^+\) cells found in fresh blood, splenic cells, and in vitro–activated T cells co-expressed CD8.\(^11\) A subset of cytolytic T lymphocytes (CTLs) with phenotype of CD8\(^+\)CD103\(^+\) was found to be responsible for the destruction of graft epithelium and, therefore, organ allograft rejection.\(^12\)

Clone

The CD103 antibody, clone Ber-ACT8, is derived from the fusion of mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with the HTLV-1–positive T-cell line, MAPS16.\(^7\)

Composition

The CD103 antibody is composed of mouse IgG\(_1\) heavy chains and kappa light chains.

Product configuration

The following are supplied in buffer 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>FITC</td>
<td>50</td>
<td>20</td>
<td>25</td>
<td>1.0</td>
<td>25</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>PE</td>
<td>50</td>
<td>20</td>
<td>25</td>
<td>1.0</td>
<td>25</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
</tbody>
</table>

\(^a\) Volume required to stain \(10^6\) cells.

PROCEDURE

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

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Flow cytometric analysis was performed on peripheral blood with hairy cell leukemia cells stained with the indicated conjugated antibody. Laser excitation was at 488 nm. Representative data analyzed with a BD FACSTM brand flow cytometer is shown in the following plots.

**Figure 1** Representative data analyzed with a BD FACSTM brand flow cytometer

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 infection13,14 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.

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.

**REFERENCES**


