CD123 (9F5)

**DESCRIPTION**

**Specificity**

The CD123 antibody recognizes a 70-kilodalton (kDa) type I integral membrane glycoprotein, also known as the interleukin-3 receptor α-chain (IL-3Rα).<sup>1</sup>

**Antigen distribution**

The CD123 antigen is expressed on a subset of peripheral blood dendritic cells,<sup>2-5</sup> monocytes,<sup>6</sup> eosinophils,<sup>6</sup> mast cells,<sup>7</sup> and basophils.<sup>8-11</sup> The expression of CD123 is induced when isolated neutrophils are cultured overnight with granulocyte-macrophage colony-stimulating factor (GM-CSF).<sup>12</sup> Since IL-3 stimulates the production of hematopoietic cells, such as megakaryocytes, erythroid cells, and B cells, it is assumed that these lineages can also express the CD123 antigen.<sup>6</sup>

The CD123 antigen binds IL-3 with low affinity and associates with the 120–140 kDa β chain (CD131) to form the high affinity IL-3 receptor. The β chain is common to the receptors for IL-5 and GM-CSF.<sup>13</sup>

**Clone**

The CD123 antibody, clone 9F5,<sup>13</sup> is derived from the hybridization of NS-1 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with IL-3Rα–transfected COS cells.<sup>6</sup>

**Composition**

The CD123 antibody is composed of mouse IgG<sub>1</sub> 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)&lt;sup&gt;a&lt;/sup&gt;</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>PE</td>
<td>50</td>
<td>20</td>
<td>12.5</td>
<td>1</td>
<td>12.5</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>APC</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>

* Volume required to stain 10⁶ cells.

**Purity**

PE, APC: ≤20% free fluorophore at bottling, as measured by size-exclusion chromatography (SEC)

**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.

**Analyzer Specific Reagent. Analytical and performance characteristics are not established.**

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WARNING

All biological specimens and materials coming in contact with them are considered biohazards. Handle as if capable of transmitting infection\(^{14,15}\) 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.

WARRANTY

Unless otherwise indicated in any applicable BD general conditions of sale for non-US customers, the following warranty applies to the purchase of these products.

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