CD117 (104D2)

DESCRIPTION

Specificity

The CD117 antibody binds to a 145-kilodalton (kDa) type I transmembrane glycoprotein in the receptor tyrosine kinase (RTK) family.\(^1\) The CD117 antigen is also known as c-kit and stem cell factor receptor (SCFR).

Antigen distribution

The CD117 antigen is expressed primarily on hematopoietic progenitor cells in the bone marrow.\(^2\)\(^-\)\(^7\) Cells that express CD34, another marker for hematopoietic stem cells, can be divided into subpopulations based on the level of their CD117 expression: CD34\(^+\)KIT\(^+\), CD34\(^+\)KIT\(^{lo}\), and CD34\(^+\)KIT\(^{hi}\). The CD34\(^+\)KIT\(^{lo}\) population is mainly in the CD34\(^+\)CD38\(^{–}\) fraction containing the most primitive hematopoietic cells.\(^5\) The CD117 antigen is expressed at similar levels on primitive, erythroid, and granulo-monocytic progenitor cells, even though these cell types respond differently to SCF.\(^6\) The CD117 antigen is also expressed on mast cells\(^8\)\(^,\)\(^9\) and neural crest-derived melanocytes.\(^9\) The CD117 antigen can activate several signaling pathways.\(^10\)\(^-\)\(^15\)

Clone

The CD117 antibody, clone 104D2,\(^16\) is derived from the hybridization of Sp2/0 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with the megakaryocytic cell line MOLM-1.

Composition

The CD117 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>
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<tbody>
<tr>
<td>PE</td>
<td>50</td>
<td>20</td>
<td>10</td>
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<td>10</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
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<tr>
<td>PerCP-Cy(^TM)5.5</td>
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<td>20</td>
<td>1.3</td>
<td>1</td>
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<tr>
<td>PE-Cy(^TM)7</td>
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<td>6.25</td>
<td>0.5</td>
<td>12.5</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
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</table>

\(a\) New formulation

Analyte Specific Reagent. Analytical and performance characteristics are not established.
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.

CAUTION If you choose to combine BD Horizon Brilliant™ reagents in a multicolor staining cocktail, dyes may bind to one another without the use of a buffering solution, such as BD Horizon™ Brilliant Stain Buffer.

NOTE The technical information for the BV605 conjugate was generated on a BD FACS™ brand flow cytometer using a violet laser and a 606/36 filter.

Purity

PV, PerCP-Cy5.5, PE-Cy7, APC: ≤20% free fluorophore at bottling, as measured by size-exclusion chromatography (SEC)

BV605: ≤25% free fluorophore at bottling, as measured by ion-exchange chromatography (IEC)

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 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.

Some reagents are bottled with ProClin 300, and contain 0.003% of a mixture of CMIT/MIT (3:1), CAS number 55965-84-9.

Visit regdocs.bd.com to download the Safety Data Sheet.

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.

THE PRODUCTS SOLD HEREUNDER ARE WARRANTED ONLY TO CONFORM TO THE QUANTITY AND CONTENTS STATED ON THE LABEL OR IN THE PRODUCT LABELING AT THE TIME OF DELIVERY TO THE CUSTOMER. BD DISCLAIMS HEREBY ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF

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<td>25</td>
<td>BSA</td>
<td>ProClin™ 300</td>
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<td>25</td>
<td>0.5</td>
<td>50</td>
<td>BSA</td>
<td>0.09% Sodium azide</td>
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</table>

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

<sup>b</sup> BD Horizon Brilliant™ Violet 605

<sup>c</sup> New formulation

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Warning

H317 May cause an allergic skin reaction.

Wear protective clothing/eye protection. Wear protective gloves. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist/vapors/spray. If skin irritation or rash occurs, get medical advice/attention. Dispose of contents/container in accordance with local/regional/national/international regulations.
REFERENCES


BD Horizon Brilliant Violet 605 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; or 8,354,239.

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