CD117 (104D2)

FORMS

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<thead>
<tr>
<th>Form</th>
<th>Catalog number</th>
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<tbody>
<tr>
<td>PE</td>
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<tr>
<td>PerCP-Cy5.5</td>
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<td>PE-Cy7</td>
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<td>APC</td>
<td>341106</td>
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<tr>
<td>BV605</td>
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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(CD117)⁻, CD34⁺KITlo, and CD34⁺KIThi. The CD34⁺KITlo 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 cells⁸,⁹ 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 IgG1 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)²</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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<tr>
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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 For optimal results, use BD Horizon™ Brilliant Stain Buffer any time two or more BD Horizon Brilliant™ reagents are used in the same multicolor staining cocktail.

NOTE As a consideration for instrument selection, the BV605 conjugate is read off the violet laser using an appropriate longpass (LP) mirror and bandpass (BP) filter. (For your information, the technical information for this data sheet was generated on a BD FACS™ brand flow cytometer using a 405-nm violet laser, a 570 LP mirror, and a 605/40 BP filter.)

<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>
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<th>Preservative</th>
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<tbody>
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<tr>
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<td>25</td>
<td>BSA</td>
<td>ProClin® 300</td>
</tr>
</tbody>
</table>

a. Volume required to stain 10^6 cells.  
b. BD Horizon Brilliant™ Violet 605

Purity

PE, 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 infection17,18 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.

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.

CHARACTERIZATION

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

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REFERENCES


**PATENTS AND TRADEMARKS**

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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