CD10 (HI10a)

DESCRIPTION

Specificity

The CD10 antibody recognizes a 100-kilodalton (kDa) type II transmembrane, glycosylated, zinc-containing metalloprotease.\(^1\),\(^2\) The CD10 antigen is also known as common acute lymphoblastic leukemia antigen (CALLA), neutral endopeptidase (NEP), gp100, and enkephalinase.\(^3\)

Antigen distribution

The CD10 antigen is found on lymphocytes from samples with acute B-lymphoid leukemia.\(^4\) The CD10 antigen is also present on a wide variety of normal and neoplastic cell types including renal epithelium, fibroblasts, granulocytes, germinal center B lymphocytes,\(^5\) neutrophils,\(^6\)–\(^8\) some T-cell leukemias,\(^9\) and some lymphoma, melanoma, and glioma cell lines.\(^3\)

The CD10 antigen cleaves a number of biologically active peptides,\(^10\) including fMLP, and may modulate the chemotactic activity of fMLP towards neutrophils.\(^11\) Inhibition of the CD10 antigen promotes B-cell maturation,\(^12\) suggesting that it plays a role in B-cell development.

Clone

The CD10 antibody, clone HI10a,\(^2\) is derived from the hybridization of P3-63-Ag8.653 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with blasts from a patient with acute CALLA leukemia.

Composition

The CD10 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)</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>12.5</td>
<td>1</td>
<td>12.5</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>PE</td>
<td>50</td>
<td>20</td>
<td>6</td>
<td>1</td>
<td>6</td>
<td>Gelatin</td>
<td>0.1% Sodium azide</td>
</tr>
<tr>
<td>PerCP-Cy(_{5.5})</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>
<tr>
<td>PE-Cy(_{7})</td>
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<td>5</td>
<td>12.5</td>
<td>0.5</td>
<td>25</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>

Analyte Specific Reagent. Analytical and performance characteristics are not established.
CAUTION Some PE-Cy7, APC-H7, and APC-R700 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™ dyes are used in the same multicolor staining cocktail.

NOTE As a consideration for instrument selection, the APC-R700 conjugate is read off the red 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 640-nm red laser, a 685 LP mirror, and a 712/21 BP filter.)

Purity

FITC: \( \leq 5\% \) free fluorophore at bottling, as measured by size-exclusion chromatography (SEC)

PE, PerCP-Cy5.5, PE-Cy7, APC, APC-H7, APC-R700: \( \leq 20\% \) free fluorophore at bottling, as measured by SEC

BV421: \( \leq 25\% \) 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\(^{13,14}\) and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing 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. The reagents are classified as hazardous according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). 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

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REFERENCES

BV421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; or 8,354,239.

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