Technical Data Sheet

BB515 Mouse Anti-Human CD10

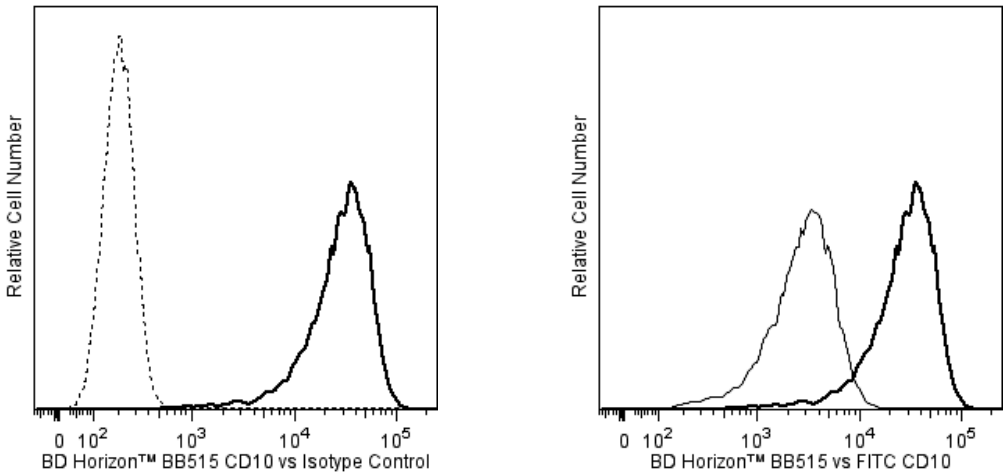
Product Information

Material Number:	**564639**
Alternate Name:	MME; CALLA; EPN; NEP; neprilysin; SFE; atriopeptidase; enkephalinase
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	HI10a
Immunogen:	Acute CALLA Leukemia Blast Cells
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Rhesus, Cynomolgus, Baboon
Workshop:	V CD10.7
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The HI10a monoclonal antibody specifically binds to CD10 which is also known as Neutral endopeptidase (NEP), Enkephalinase, Atriopeptidase, and Neprilysin. CD10 is encoded by *MME* (membrane metallo-endopeptidase). CD10 is a 100 kDa type II transmembrane glycoprotein that has neutral endopeptidase activity and is otherwise known as the Common Acute Lymphoblastic Leukemia Antigen (CALLA). CD10 is expressed on a wide variety of normal and neoplastic cell types. Normal cells expressing CD10 include granulocytes, bone marrow stromal cells, a subset of B-cell progenitors, germinal center B cells and fibroblasts. This cell surface metalloendopeptidase inactivates a number of signaling molecules and serves as a major regulator in the nervous, immune and other systems.

The antibody was conjugated to BD Horizon BB515 which is part of the BD Horizon Brilliant™ Blue family of dyes. With an Ex Max near 490 nm and an Em Max near 515 nm, BD Horizon BB515 can be excited by the blue laser (488 nm) laser and detected with a 530/30 nm filter. This dye has been exclusively developed by BD Biosciences and is up to seven times brighter than FITC with less spillover into the PE channel. Due to similar excitation and emission properties, BB515, FITC, and Alexa Fluor® 488 cannot be used simultaneously. It is not recommended to use BB515 in cocktails that include Streptavidin conjugates as it may cause high background.



Flow cytometric analysis of CD10 expression on human REH cells - Staining comparisons between BD Horizon™ BB515- and FITC-conjugated antibodies. *Cells from the REH (Acute B cell leukemia, ATCC CRL-8283) cell line were stained with either BD Horizon™ BB515 Mouse IgG1, κ Isotype Control (Cat. No. 564416; dashed line histogram) or BD Horizon BB515 Mouse Anti-Human CD10 antibody (Cat. No. 564638/564639; bold solid line histogram). Alternatively, cells were stained with FITC Anti-Human CD10 antibody (Cat. No. 332775; thin solid line histogram).*

Overlaid histograms are shown to facilitate staining comparisons between: BB515 Anti-CD10 antibody versus its Ig Isotype Control (Left Panel), and BB515 Anti-CD10 antibody versus FITC Anti-CD10 antibody (Right Panel). The fluorescence histograms showing CD10 expression (or Ig Isotype control staining) were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer System.

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Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ BB515 under optimum conditions and unconjugated antibody was removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Recommended Assay Procedure:

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

For optimal results, it is recommended to perform 2 washes after staining with antibodies. Cells may be prepared, stained with antibodies and washed twice with wash buffer per established protocols for immunofluorescence staining, prior to acquisition on a flow cytometer. Performing fewer than the recommended wash steps may lead to increased spread of the negative population.

Suggested Companion Products

Catalog Number	Name	Size	Clone
563794	Brilliant Stain Buffer	100 Tests	(none)
564416	BB515 Mouse IgG1, κ Isotype Control	100 µg	X40
564638	BB515 Mouse Anti-Human CD10	100 Tests	HI10a
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
6. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
7. Please refer to www.regdocs.bd.com to access safety data sheets (SDS).
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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Chen X, Laur O, Kambayashi T, et al. Regulated expression of human histocompatibility leukocyte antigen (HLA)-DO during antigen-dependent and antigen-independent phases of B cell development. *J Exp Med.* 2002; 195(8):1053-1062. (Clone-specific: Cell separation, Flow cytometry)

Letarte M, Vera S, Tran R, et al. Common acute lymphocytic leukemia antigen is identical to neutral endopeptidase. *J Exp Med.* 1988; 168(4):1247-1253. (Biology)

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