

Technical Data Sheet

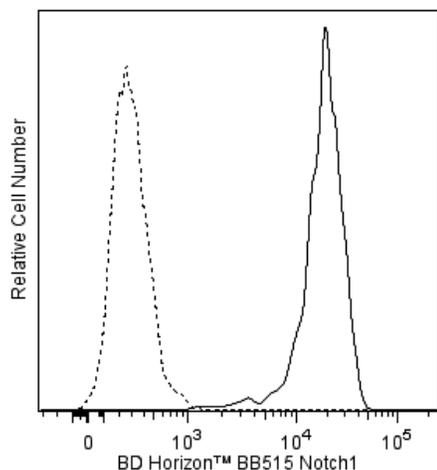
BB515 Mouse Anti-Human Notch1**Product Information**

Material Number:	566023
Alternate Name:	NOTCH1; Notch 1; NOTC1; hN1; TAN1; Neurogenic locus notch homolog protein 1
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	MHN1-519
Immunogen:	Human Notch1 Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The MHN1-519 monoclonal antibody specifically binds to an extracellular domain of human Notch1. Notch1 is a type 1 transmembrane glycoprotein receptor and member of the Notch family that includes Notch1-Notch4. Notch1 is cleaved in the Golgi and presents as a cell surface heterodimeric receptor. The Notch1 receptor can bind to several membrane-bound ligands including Jagged1, Jagged2, Delta1 and Delta4. Upon ligand binding, Notch1 undergoes proteolytic cleavage that results in the release of the Notch intracellular domain, NICD. NICD translocates to the nucleus where it forms a transcriptional activator complex with various transcriptional factors. These multimeric complexes either positively or negatively regulate the expression of multiple genes including those that orchestrate many facets of embryonic development and the subsequent functioning of multiple organ systems such as the immune, cardiovascular and nervous systems. Within the immune system, Notch signaling significantly affects the development, proliferation, differentiation and survival of numerous cell types including thymocytes and subsets of T and B lymphocytes and dendritic cells. In altered forms, Notch1 has been associated with certain cardiovascular diseases and with some lymphocyte neoplasms.

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 Notch1 expression on stimulated human peripheral blood lymphocytes. Phytohemagglutinin-stimulated (3 days) peripheral blood mononuclear cells 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 Notch1 antibody (Cat. No. 564781/566023; solid line histogram). The fluorescence histogram showing Notch1 expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of activated lymphocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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
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Recommended Assay Procedure:**BD Biosciences**

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United States 877.232.8995 Canada 866.979.9408 Europe 32.2.400.98.95 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

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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
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
564416	BB515 Mouse IgG1, κ Isotype Control	100 µg	X40
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. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications. This product, and only in the amount purchased by buyer, may be used solely for buyer's own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. Diagnostic uses require a separate license.
6. 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.
7. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
8. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.

References

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- Milner LA, Kopan R, Martin DI, Bernstein ID. A human homologue of the Drosophila developmental gene, Notch, is expressed in CD34+ hematopoietic precursors. *Blood*. 1994; 83(8):2057-2062. (Biology)
- Yamada S, Ebihara S, Asada M, et al. Role of ephrinB2 in nonproductive angiogenesis induced by Delta-like 4 blockade. *Blood*. 2009; 113(15):3631-3639. (Clone-specific: Flow cytometry)