Technical Data Sheet

V500 Mouse Anti-Human IgD

Product Information

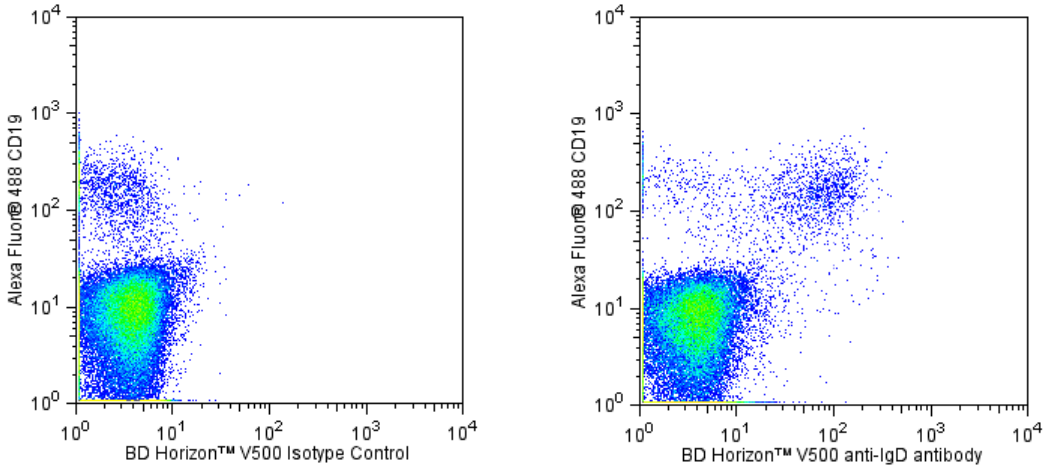
Material Number:	**561490**
Alternate Name:	IGHD; Ig delta chain C region; Immunoglobulin heavy constant delta
Size:	50 tests
Vol. per Test:	5 µl
Clone:	IA6-2
Isotype:	Mouse IgG2a, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing protein stabilizer, glycerol and ≤0.09% sodium azide.

Description

The IA6-2 monoclonal antibody specifically binds to the heavy chain of human Immunoglobulin D (IgD). IgD is a member of the immunoglobulin superfamily that exists in type 1-membrane (mIgD) and soluble glycoprotein forms. mIgD is expressed on mature naïve B cells (along with membrane IgM) and serves as a B-cell receptor for antigen (BCR). In response to antigen binding, the mIgD BCR, in association with other signaling molecules including CD79a and CD79b, can transduce activating or tolerizing signals intracellularly into B lymphocytes.

The antibody is conjugated to BD Horizon™ V500, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser with an Ex max of 415 nm and Em Max at 500 nm. BD Horizon V500 conjugates emit at a similar wavelength to Amcyan yet exhibit reduced spillover into the FITC channel. For more information on BD Horizon V500, visit bdbiosciences.com/colors.

When compensating dyes in this spectral range (such as Horizon™ V500 and AmCyan), the most accurate compensation can be obtained using single stained cellular controls. Due to spectral differences between cells and beads in this channel, using BD CompBeads can result in spillover errors for V500 and AmCyan reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different V500 reagents (e.g. CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.



Multicolor flow cytometric analysis of IgD expression on human peripheral blood lymphocytes. *Human peripheral blood mononuclear cells were incubated in complete tissue culture medium overnight in order to minimize subsequent nonspecific immunofluorescent staining. The cells were harvested and stained with Alexa Fluor® 488 Mouse Anti-Human CD19 antibody (Cat. No. 557697) and with either BD Horizon™ V500 Mouse IgG2a, κ Isotype Control (Cat. No. 561221; Left Panel) or BD Horizon™ V500 Mouse anti-Human IgD antibody (Cat. No. 561490; Right Panel). The two-color flow cytometric dot plots showing the correlated expression of IgD (or Ig isotype control staining) versus CD19 were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with BD Horizon™ V500 under optimum conditions, and unreacted BD Horizon™ V500 was removed.
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
561221	V500 Mouse IgG2a, κ Isotype control	0.1 mg	G155-178
554656	Stain Buffer (FBS)	500 ml	(none)
557697	Alexa Fluor® 488 Mouse Anti-Human CD19	100 tests	HIB19

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. BD Horizon™ V500 has a maximum absorption of 415 nm and maximum emission of 500 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Preud'homme JL, Petit I, Barra A, Morel F, Lecron JC, Lelievre E. Structural and functional properties of membrane and secreted IgD. *Mol Immunol.* 2000; 37(15):871-887. (Biology)
Wei C, Anolik J, Cappione A, et al. A new population of cells lacking expression of CD27 represents a notable component of the B cell memory compartment in systemic lupus erythematosus. *J Immunol.* 2007; 178(10):6624-6633. (Clone-specific: Flow cytometry)
White MB, Shen AL, Word CJ, Tucker PW, Blattner FR. Human immunoglobulin D: genomic sequence of the delta heavy chain. *Science.* 1985; 228(4700):733-737. (Biology)