

Technical Data Sheet

BV421 Mouse Anti-Human CD163**Product Information**

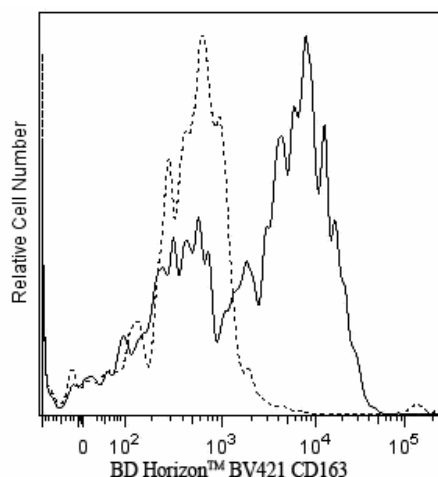
Material Number:	562643
Alternate Name:	CD163 antigen; M130; MM130; GHI/61; D11C163A; RM3/1
Size:	50 tests
Vol. per Test:	5 µl
Clone:	GHI/61
Immunogen:	Glycoprotein preparation from Hairy Cell Leukemia Spleen
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	VI M38
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The GHI/61 monoclonal antibody specifically binds to human CD163. CD163 is also known as Scavenger receptor cysteine-rich type 1 protein M130 (M130), Hemoglobin scavenger receptor and Macrophage-associated antigen. CD163 is a 110-130 kDa transmembrane glycoprotein. CD163 is a monocyte/macrophage-restricted antigen expressed on the majority of tissue macrophages and peripheral blood monocytes. CD163 belongs to the scavenger receptor superfamily. Its expression on monocytes is upregulated upon cellular activation. CD163 expression reportedly changes on monocytes and macrophages as these cells differentiate. This finding suggests a role for this molecule in the differentiation and/or regulation of monocyte and macrophage function. CD163 may play a role in the clearance and endocytosis of hemoglobin and haptoglobin complexes by macrophages.

It has been reported (Maniecki et al., 2011) that the presence of calcium impacts the binding affinity of clone GHI/61 to CD163. There is a variation in detecting CD163 positive monocytes when the cells are prepared with different anticoagulants, where heparin was observed to have the highest inhibitory effect on clone GHI/61.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



Flow cytometric analysis of CD163 expression on human peripheral blood monocytes. Whole blood was stained with either BD Horizon™ BV421 Mouse Anti-Human CD163 antibody (Cat. No. 562643; solid line histogram) or with a BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No. 562438; dashed line histogram). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable monocytes. Flow cytometry 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
562438	BV421 Mouse IgG1, k Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 ml	(none)
555899	Lysing Buffer	100 ml	(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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Brilliant Violet™ 421 is a trademark of Sirigen.
5. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
6. 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.
7. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References

Kishimoto T, von dem Borne AEG, Goyert SM, et al., ed. *Leucocyte Typing VI: White Cell Differentiation Antigens*. London: Garland Publishing; 1997. (Clone-specific)

Law SK, Micklem KJ, Shaw JM. A new macrophage differentiation antigen which is a member of the scavenger receptor superfamily. *Eur J Immunol*. 1993; 23(9):2320-2325. (Biology)

Maniecki MB, Etzerodt A, Moestrup S, Møller J, Graversen J. Comparative assessment of the recognition of domain-specific CD163 monoclonal antibodies in human monocytes explains wide discrepancy in reported levels of cellular surface CD163 expression. *Immunobiology*. 2011; 216(8):882-890. (Biology)

Pulford K, Micklem K, McCarthy S, Cordell J, Jones M, Mason DY. A monocyte/macrophage antigen recognized by the four antibodies GHI/61, Ber-MAC3, Ki-M8 and SM4. *Immunology*. 1992; 75(4):588-595. (Immunogen: Blocking, Flow cytometry, Immunoaffinity chromatography, Immunohistochemistry, Immunoprecipitation)

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