

Technical Data Sheet

BV510 Mouse Anti-Human CD172b

Product Information

Material Number:	744935
Size:	50 µg
Clone:	B4B6
Alternative Name:	SIRPB1; SIRP-BETA-1; SIRPβ1; SIRPbeta; SIRP beta
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human SIRPβ1 extracellular domain Recombinant Protein
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	VIII 80164
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The B4B6 monoclonal antibody specifically binds to CD172b, which is also known as Signal regulatory protein β (SIRPβ), or SIRP-beta-1 (SIRPB1/SIRP β 1). CD172b is a 50 kDa, type I transmembrane glycoprotein that belongs to the SIRP family within the Ig gene superfamily. CD172b has a transmembrane domain that contains a positively-charged lysine residue. This allows CD172b to interact with a transmembrane signaling adaptor protein, DAP12/KARAP, and transduce stimulatory signals into cells. CD172b is expressed on monocytes, macrophages, dendritic cells, and granulocytes. It is not expressed on CD34+ cells. CD172b/SIRPβ and its counterpart, CD172a/SIRP α, appear to have complementary roles in signal regulation and may work together in tuning cellular responses to certain ligands. This clone has been reported not to cross-react with CD172a.

The antibody was conjugated to BD Horizon™ BV510 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon BV510 can be excited by the violet laser and detected in the BD Horizon V500 (525/50-nm) filter set. BD Horizon BV510 conjugates are useful for the detection of dim markers off the violet laser.

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 BV510 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) 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).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
562946	BV510 Mouse IgG1, κ Isotype Control	50 µg	X40

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. 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.
9. BD Horizon Brilliant Violet 510 is covered by one or more of the following US patents: 8,575,303; 8,354,239.

References

Dietrich J, Cella M, Seiffert M, Bühring HJ, Colonna M. Cutting edge: signal-regulatory protein beta 1 is a DAP12-associated activating receptor expressed in myeloid cells. *J Immunol.* 2000; 164(1):9-12.

Florian S, Sonneck K, Czerny M, et al. Detection of novel leukocyte differentiation antigens on basophils and mast cells by HLDA8 antibodies. *Allergy.* 2006; 61(9):1054-1062.

Seiffert M, Brossart P, Cant C, et al. Signal-regulatory protein alpha (SIRPalpha) but not SIRPbeta is involved in T-cell activation, binds to CD47 with high affinity, and is expressed on immature CD34(+)CD38(-) hematopoietic cells. *Blood.* 2001; 97(9):2741-9.

Seiffert M, Cant C, Chen Z, et al. Human signal-regulatory protein is expressed on normal, but not on subsets of leukemic myeloid cells and mediates cellular adhesion involving its counterreceptor CD47. *Blood.* 1999; 94(11):3633-3643.

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