

# Technical Data Sheet

## BV605 Mouse Anti-Human CD1d

### Product Information

Material Number:	743605
Size:	50 µg
Clone:	CD1d42 (also known as 42.1)
Alternative Name:	R3; R3G1; HMC class I antigen-like glycoprotein CD1D
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human CD1d Recombinant Protein
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	912
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The CD1d42 monoclonal antibody recognizes CD1d. Cell surface CD1d is structurally homologous to Class I MHC molecules. It consists of a glycosylated type I transmembrane  $\alpha$  chain (43-49 kDa) that is non-covalently associated with  $\beta$ 2-microglobulin. CD1d is a member of the CD1 family of molecules, which belong to the immunoglobulin superfamily. Sequence homology data classifies the CD1 molecules into two groups. Group 1 includes CD1a, CD1b and CD1c molecules; group 2 includes CD1d molecules and their homologs in other species. CD1d is expressed on cortical thymocytes, B cells, dendritic cells, monocytes, and some nonlymphoid cells including intestinal epithelial cells, hepatocytes and keratinocytes. It is not expressed on resting mature T cells. Studies suggest that CD1d participates in lipid antigen presentation to CD1d-restricted NKT cells.

This antibody is conjugated to BD Horizon™ BV605 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max of 602-nm, BD Horizon BV605 can be excited by a violet laser and detected with a standard 610/20-nm filter set. BD Horizon BV605 is a tandem fluorochrome of BD Horizon BV421 and an acceptor dye with an Em max at 605-nm. Due to the excitation of the acceptor dye by the green (532 nm) and yellow-green (561 nm) lasers, there will be significant spillover into the PE and BD Horizon PE-CF594 detectors off the green or yellow-green lasers. BD Horizon BV605 conjugates are very bright, often exhibiting brightness equivalent to PE conjugates and can be used as a third color off of the violet laser.

### Preparation and Storage Section

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 BV605 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) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
349202	Lysing Solution 10X Concentrate IVD	100 NA	
564219	Human BD Fc Block™ RUO	50 mg	

## 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 [wwwbdbiosciences.com/colors](http://wwwbdbiosciences.com/colors).
7. Please refer to [wwwbdbiosciences.com/us/s/resources](http://wwwbdbiosciences.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 605 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.

## References

- Exley M, Garcia J, Wilson SB, et al. CD1d structure and regulation on human thymocytes, peripheral blood T cells, B cells and monocytes. *Immunology*. 2000; 100(1):37-47.
- Hong S, Scherer DC, Singh N. Lipid antigen presentation in the immune system: lessons learned from CD1d knockout mice. *Immunol Rev*. 1999; 169:31-44.
- Kishimoto T, Tadimitsu Kishimoto .. et al., ed. Leucocyte typing VI : white cell differentiation antigens : proceedings of the sixth international workshop and conference held in Kobe, Japan, 10-14 November 1996. New York: Garland Pub.; 1997; .
- Ronger-Savle S, Valladeau J, Claudy A, et al. TGFbeta inhibits CD1d expression on dendritic cells. *J Invest Dermatol*. 2005; 124(1):116-118.
- Somnay-Wadgaonkar K, Nusrat A, Kim HS. Immunolocalization of CD1d in human intestinal epithelial cells and identification of a beta2-microglobulin-associated form. 1999; 11(3):383-392.

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