

# Technical Data Sheet

## BV711 Mouse Anti-Rat CD1d

### Product Information

Material Number:	744192
Size:	50 µg
Clone:	WTH2 (also known as WTH-2)
Alternative Name:	Cd1d; Antigen-presenting glycoprotein CD1d; CD1d1
Reactivity:	Rat (Tested in Development)
Isotype:	Mouse BALB/c IgG2a, κ
Immunogen:	Rat CD1d Transfected Cell Line
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The WTH2 monoclonal antibody specifically binds to rat CD1d and crossreacts with mouse CD1d. CD1d is a type I transmembrane glycoprotein that is noncovalently associated with β2-microglobulin. CD1d is expressed on various cell types including subsets of thymocytes, T cells, B cells, monocytes, macrophages, dendritic cells, endothelial cells and epithelial cells. Although structurally similar to MHC Class I antigens, CD1d molecules are rather non-polymorphic and serve to present non-peptide antigens such as endogenous or microbial glycolipids to T lymphocytes (NKT cells). The WTH1 monoclonal antibody reportedly binds to a non-overlapping epitope on rat CD1d and also crossreacts with mouse CD1d when compared with WTH2. Both WTH1 and WTH2 reportedly interfere with antigen recognition by CD1d-restricted T cells.

The antibody was conjugated to BD Horizon™ BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

### 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 BV711 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	
563345	BV711 Mouse IgG2a, κ Isotype Control	50 µg	G155-178
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2

## 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](http://www.bdbiosciences.com/colors).
7. Please refer to [www.bdbiosciences.com/us/s/resources](http://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 711 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.
10. Cy is a trademark of GE Healthcare.
11. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

## References

Ichimiya S, Kikuchi K, Matsuura A. Structural analysis of the rat homologue of CD1. Evidence for evolutionary conservation of the CD1D class and widespread transcription by rat cells. *J Immunol.* 1994; 153(3):1112-1123.

Monzon-Casanova E, Steiniger B, Schweigle S, et al. CD1d expression in paneth cells and rat exocrine pancreas revealed by novel monoclonal antibodies which differentially affect NKT cell activation. *PLoS ONE.* 2010; 5(9):e13089.

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