

# Technical Data Sheet

## BV650 Mouse Anti-Human CD141

### Product Information

Material Number:	740604
Size:	50 µg
Clone:	1A4
Alternative Name:	Thrombomodulin; TM; THBD; THRM; AHUS6; Fetomodulin; BDCA-3
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Purified Human Thrombomodulin
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	VI E013
Entrez Gene ID:	7056
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The 1A4 monoclonal antibody specifically binds to CD141. CD141 is a 75 kDa, single chain, type I membrane glycoprotein referred to as thrombomodulin and fetomodulin. CD141 is expressed on endothelial cells, smooth muscle cells, epithelial cells, synovial lining cells, and keratinocytes. It is also found on megakaryocytes, dendritic cells, peripheral blood monocytes, and neutrophils, but not on lymphocytes. Reports indicate that CD141 plays an important role in Protein C activation and the initiation of the Protein C anticoagulant pathway. Thrombin loses its procoagulant function when it binds to CD141, and the CD141/thrombin complex is able to activate Protein C.

The antibody was conjugated to BD Horizon™ BV650 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 650-nm. BD Horizon BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 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 BV650 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
563231	BV650 Mouse IgG1, κ Isotype Control	50 µg	X40
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	

## 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. 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.
8. BD Horizon Brilliant Violet 650 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.
9. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
10. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
11. Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.com/us/s/resources) for technical protocols.

## References

Chu M, Bird P. CD141 (thrombomodulin) Workshop Panel report. In: 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; :741-742.

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; .

Teasdale MS, Bird CH, Bird P. Internalization of the anticoagulant thrombomodulin is constitutive and does not require a signal in the cytoplasmic domain. *Immunol Cell Biol.* 1994; 72(6):480-488.

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