

Technical Data Sheet

BV421 Mouse Anti-Human CD365 (TIM-1)

Product Information

Material Number:	742539
Size:	50 µg
Clone:	1D12
Alternative Name:	CD365; TIM1; TIM; TIMD1; TIMD-1; HAVCR1; HAVCR-1; HAVCR; KIM1; KIM-1
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human TIM-1 Recombinant Protein
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	X 10-67
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 1D12 monoclonal antibody specifically binds to CD365, the T-cell immunoglobulin mucin receptor 1 (TIM-1). TIM-1 is expressed on kidney epithelial cells, T cells, and some hematopoietic and non-hematopoietic cells. CD365 (TIM-1) is a type 1 transmembrane glycoprotein that serves as a receptor for hepatitis A virus and is encoded by the HAVCR1 (Hepatitis A virus cellular receptor 1) gene. TIM-1 also serves as a receptor for phosphatidylserine which is exposed on the surface of apoptotic cells. TIM-1 can reportedly mediate the uptake of apoptotic cells through the recognition of phosphatidylserine and thus help maintain tissue homeostasis and self-tolerance. TIM-1 is likewise known as Kidney injury molecule 1 (KIM-1). It is highly expressed by cancerous kidneys, and upregulated in the proximal tubular epithelium and shed into the urine during acute and chronic kidney injury. CD365 (TIM-1) also functions as a costimulatory molecule for immune cells. It is expressed by activated CD4+ T cells and regulates the effector functions (eg, enhanced cytokine production) and survival of differentiated T cells, including those mediating Th2-like immune responses. Other ligands have been described for TIM-1 including TIM-4 and LMIR5 (also known as CD300b) which are expressed by myeloid cells. With respect to disease associations, the HAVCR1 gene has been linked to asthma, allergy, and some autoimmune diseases.

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.

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 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	
562438	BV421 Mouse IgG1, k 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 wwwbdbiosciences.com/colors.
7. Please refer to 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 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
10. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.

References

- Binne LL, Scott ML, Rennert PD. Human TIM-1 associates with the TCR complex and up-regulates T cell activation signals. *J Immunol.* 2007; 178(7):4342-4350. (Biology: Flow cytometry).
- Freeman GJ, Casasnovas JM, Umetsu DT, DeKruyff RH. TIM genes: a family of cell surface phosphatidylserine receptors that regulate innate and adaptive immunity. *Immunol Rev.* 2010; 235(1):172-89. (Biology: Flow cytometry).
- Kim HY, Eyheramonho MB, Pichavant M, et al. A polymorphism in TIM1 is associated with susceptibility to severe hepatitis A virus infection in humans. *J Clin Invest.* 2011; 121(3):1111-1118. (Clone-specific: Flow cytometry).
- Kobayashi N, Karisola P, Pena-Cruz V, et al. TIM-1 and TIM-4 glycoproteins bind phosphatidylserine and mediate uptake of apoptotic cells. *Immunity.* 2007; 27(6):927-940. (Immunogen: Flow cytometry).
- Manangeeswaran M, Jacques J, Tami C, et al. Binding of hepatitis A virus to its cellular receptor 1 inhibits T-regulatory cell functions in humans. *Gastroenterology.* 2012; 142(7):1516-1525. (Clone-specific: Flow cytometry).
- Rennert PD. Novel roles for TIM-1 in immunity and infection. *Immunol Lett.* 2011; 141(1):28-35. (Clone-specific: Flow cytometry).
- Rodriguez-Manzanet R, DeKruyff R, Kuchroo VK, Umetsu DT. The costimulatory role of TIM molecules. *Immunol Rev.* 2009; 229(1):259-270. (Biology: Flow cytometry).

BD Biosciences

bdbiosciences.com

United States 877.232.8995	Canada 888.268.5430	Europe 32.53.720.550	Japan 0120.8555.90	Asia Pacific 65.6861.0633	Latin America/Caribbean 0800.771.7157
-------------------------------	------------------------	-------------------------	-----------------------	------------------------------	--

For country contact information, visit bdbiosciences.com/contact

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for a patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

©2020 BD. All rights reserved. Unless otherwise noted, BD, the BD Logo and all other trademarks are the property of Becton, Dickinson and Company or its affiliates.

