

Technical Data Sheet

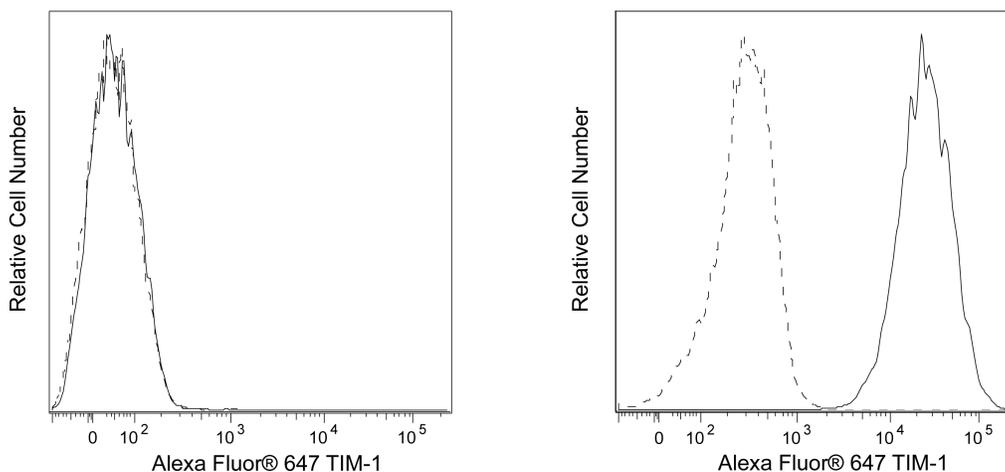
Alexa Fluor® 647 Mouse Anti-Human CD365 (TIM-1)

Product Information

Material Number:	563957
Alternate Name:	TIM1; TIM; TIMD1; TIMD-1; HAVCR1; HAVCR-1; HAVCR; KIM1; KIM-1
Size:	50 Tests
Vol. per Test:	5 µl
Clone:	1D12
Immunogen:	Human TIM-1 Recombinant Protein
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	X
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

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.



Flow cytometric analysis of CD365 (TIM-1) expressed on human 769-P cells. Cells from the human Jurkat (Acute T cell leukemia, ATCC TIB-152; Left Panel) and 769-P (Renal cell adenocarcinoma, ATCC CRL-1933; Right Panel) cell lines were stained with BD Horizon™ Fixable Viability Stain 450 (Cat. No. 562247). The cells were washed and then stained with either Alexa Fluor® 647 Mouse Anti-Human CD365 (TIM-1) antibody (Cat. No. 563957; solid histogram), or Alexa Fluor® 647 Mouse IgG1 κ Isotype Control (Cat. No. 557714; dashed line histograms). The fluorescence histograms were derived from gated events with the forward and side light-scatter and Fixable Viability Stain 450 characteristics (data not shown) of viable lymphocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	866.979.9408	32.2.400.98.95	0120.8555.90	65.6861.0633	55.11.5185.9995

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 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.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2015 BD

563957 Rev. 2



Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
557714	Alexa Fluor® 647 Mouse IgG1 κ Isotype Control	100 Tests	MOPC-21
562247	Fixable Viability Stain 450	0.1 mg	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
8. 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.
9. An isotype control should be used at the same concentration as the antibody of interest.

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)

Freeman GJ, Casasnovas JM, Umetsu DT, DeKruyff RH. TIM genes: a family of cell surface phosphatidyserine receptors that regulate innate and adaptive immunity. *Immunol Rev.* 2010; 235(1):172-189. (Biology)

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: Blocking, Functional assay)

Kobayashi N, Karisola P, Pena-Cruz V, et al. TIM-1 and TIM-4 glycoproteins bind phosphatidyserine and mediate uptake of apoptotic cells. *Immunity.* 2007; 27(6):927-940. (Immunogen: Blocking, Flow cytometry, Functional assay)

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: Blocking, Functional assay)

Rennert PD. Novel roles for TIM-1 in immunity and infection. *Immunol Lett.* 2011; 141(1):28-35. (Clone-specific: Blocking)

Rodriguez-Manzanet R, DeKruyff R, Kuchroo VK, Umetsu DT. The costimulatory role of TIM molecules. *Immunol Rev.* 2009; 229(1):259-270. (Biology)

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	866.979.9408	32.2.400.98.95	0120.8555.90	65.6861.0633	55.11.5185.9995

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 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.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2015 BD

563957 Rev. 2

