

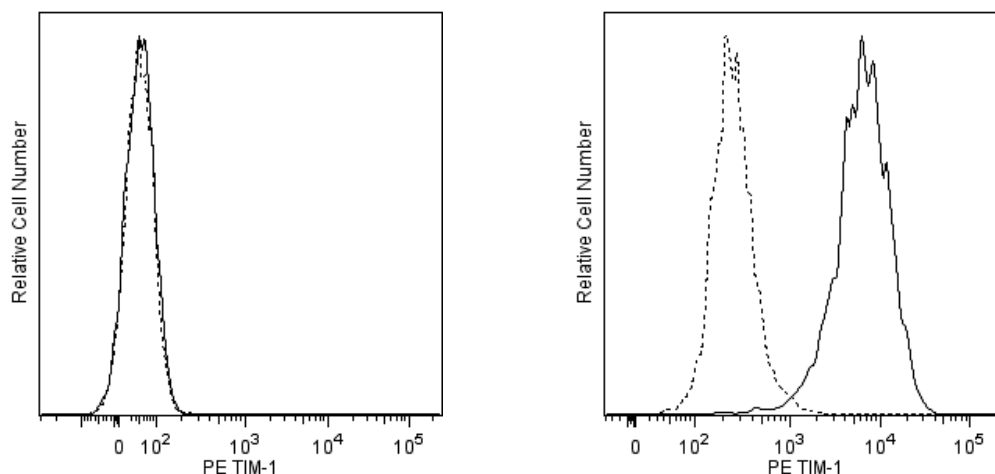
Technical Data Sheet

PE Mouse Anti-Human CD365 (TIM-1)**Product Information**

Material Number:	564820
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) expression 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 either PE Mouse IgG1 κ Isotype Control (Cat. No. 554680; dashed line histograms) or PE Mouse Anti-Human CD365 (TIM-1) antibody (Cat. No. 564820; solid line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. 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 with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
554680	PE Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21

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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. 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)

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