

## Anti-Tim-1 [3B3] VivopureX 100 mg Ab01032-1.1-VXB

This chimeric mouse antibody was made using the variable domain sequences of the original rat IgG2a format, for improved compatibility with existing reagents, assays and techniques.

**Isotype and Format:** Mouse IgG1, Kappa

**Clone Number:** 3B3

**Alternative Name(s) of Target:** CD365; HAVcr-1; HAVCR1; Hepatitis A virus cellular receptor 1 homolog; Kidney injury molecule 1; KIM-1; T cell immunoglobulin and mucin domain-containing protein 1; T cell membrane protein 1; T-cell immunoglobulin and mucin domain containing 1; T-cell immunoglobulin mucin receptor 1; TIM-1; TIM1; TIMD-1

**UniProt Accession Number of Target Protein:** Q5QNS5

**Published Application(s):** agonism, FC, IF, IHC

**Published Species Reactivity:** Mouse

**Immunogen:** This antibody was raised by immunising female Lewis strain rats (Harlan Sprague-Dawley) subcutaneously with mouse TIM-1-Ig in complete Freund's adjuvant (CFA), followed by multiple 'boosting' with mouse TIM-1-Ig in PBS.

**Specificity:** This antibody is specific for murine TIM-1, a member of the T cell immunoglobulin domain, mucin-like domain (TIM) gene family. TIM-1 has been found on activated CD4+ T cells, mast cells, and a subset of B cells. TIM-1 is involved in renal injury, tissue homeostasis, and T cell costimulation, and promotes the differentiation of Th2 cells and the production of IL-4. TIM-1 can bind several ligands, including Hepatitis A virus, phosphatidylserine, TIM4, IgA, as well as itself.

**Application Notes:** This antibody has been used in multiple FACS analyses, such as to determine if specific B cell subsets or if B cell-derived interleukin-10 contributes to tolerance (Lai et al, 2015), to test if blocking several checkpoint receptors boosts anti-tumor immunity in a low-dose, lympho-depleting whole body irradiation model (Jing et al, 2015), and to study the functions of kidney pericytes in vascular stability (Schrimpf et al, 2012). This antibody has also been used in immunohistochemistry to investigate the distinct role of matrix metalloproteinase-3 in TIM-1 shedding by kidney proximal tubular epithelial cells (Lim et al. 2012), and to demonstrate how B $\beta$ (15-42) attenuates the effect of ischemia-reperfusion injury in renal transplantation (Sørensen et al, 2011). In addition, in vivo applications of this agonistic anti-TIM-1 antibody (clone 3B3) has been shown, for instance, to heighten T cell activation and prevent the development of respiratory tract tolerance in a Th2-driven model of asthma (Umetsu et al, 2005), to increase the frequency of antigen-specific T cells, the production of the proinflammatory cytokines IFN- $\gamma$  and IL-17, and thus the

severity of experimental autoimmune encephalomyelitis (Sheng et al, 2007), as well as to deprogram Tregs and prevent transplant tolerance in mice (Degauque et al, 2008). The agonistic effect of 3B3 is exerted by cross-linking of TIM-1 molecules, as Fab fragments of 3B3 do not show this activity (Umetsu, 2005). As this cross-linking was observed in the presence of dendritic cells, using a rat IgG2a version of the antibody, the cross-linking is likely Fc-dependent.

**Antibody First Published in:** Umetsu Sarah et al. TIM-1 induces T cell activation and inhibits the development of peripheral tolerance. Nat Immunol. 2005 May;6(5):447-54. [PMID:15793575](https://pubmed.ncbi.nlm.nih.gov/15793575/)

**Note on publication:** Describe the original generation of this antibody and its use in FACS analysis and in a TCR-transgenic DO11.10 mouse model to demonstrate that TIM-1 induces T cell activation and inhibits the development of peripheral tolerance.

## Product Form

**Size:** 100 mg VivopureX products are produced at high purity (>98%), low endotoxin (<0.5 EU/mg) and are formulated without preservatives. These antibodies are chimerized to have an Fc domain matching their target species to reduce immunogenicity and give you the optimal effector function for your experiment. As a result VivopureX products are the ideal choice for in vivo research applications.

**Purification:** Protein A affinity purified

**Supplied In:** PBS only.

**Storage Recommendation:** All VivopureX products are formulated in PBS only without addition of preservatives. To ensure optimal storage and prevent microbial contamination, only open and dispense under sterile conditions. Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

**Concentration:** ≥1mg (see vial label for exact conc)

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.