

DESCRIPTION

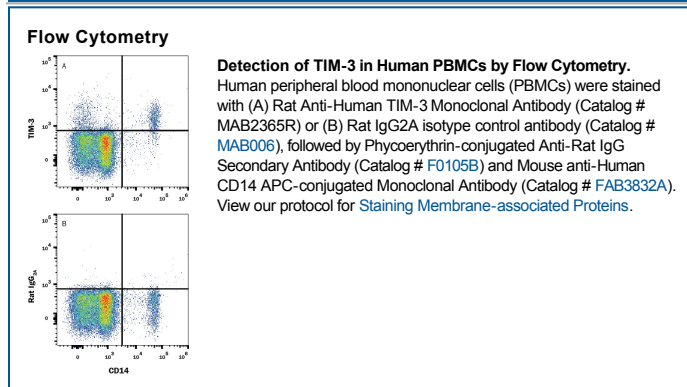
Species Reactivity	Human
Specificity	Detects human TIM-3 in direct ELISAs.
Source	Recombinant Monoclonal Rat IgG _{2A} Clone # 344823R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TIM-3 Ser22-Arg200 Accession # Q8TDQ0.2
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TIM-3 (T cell Immunoglobulin and Mucin domain-3) is a 60 kDa member of the TIM family of immune regulating molecules. TIMs are type I transmembrane glycoproteins with one Ig-like V-type domain and a Ser/Thr-rich mucin stalk (1-3). Mature human TIM-3 consists of a 181 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 78 aa cytoplasmic tail (4). An alternately spliced isoform is truncated following a short substitution after the Ig-like domain. Within the ECD, human TIM-3 shares 58% aa sequence identity with mouse and rat TIM-3. TIM-3 is expressed on the surface of effector T cells (CD4⁺ Th1 and CD8⁺ Tc1) but not on helper T cells (CD4⁺ Th2 and CD8⁺ Tc2) (4, 5). In chronic inflammation, autoimmune disorders, and some cancers, TIM-3 is upregulated on several other hematopoietic cell types. The Ig domain of TIM-3 interacts with a ligand on resting but not activated Th1 and Th2 cells (5, 6). The glycosylated Ig domain of TIM-3 binds cell-associated galectin-9. This induces TIM-3 Tyr phosphorylation and proapoptotic signaling (7). TIM-3 functions as a negative regulator of Th1 cell activity. Its blockade results in increased IFN- γ production, Th1 cell proliferation and cytotoxicity (5, 6, 8), regulatory T cell development (5), and increases in macrophage and neutrophil infiltration into sites of inflammation (9).

References:

1. Anderson, A.C. and D.E. Anderson (2006) *Curr. Opin. Immunol.* **18**:665.
2. Mariat, C. *et al.* (2005) *Phil. Trans. R. Soc. B* **360**:1681.
3. Meyers, J.H. *et al.* (2005) *Trends Mol. Med.* **11**:362.
4. Monney, L. *et al.* (2002) *Nature* **415**:536.
5. Sanchez-Fueyo, A. *et al.* (2003) *Nat. Immunol.* **4**:1093.
6. Sabatos, C.A. *et al.* (2003) *Nat. Immunol.* **4**:1102.
7. Zhu, C. *et al.* (2005) *Nat. Immunol.* **6**:1245.
8. Koguchi, K. *et al.* (2006) *J. Exp. Med.* **203**:1413.
9. Frisancho-Kiss, S. *et al.* (2006) *J. Immunol.* **176**:6411.