

**DESCRIPTION**

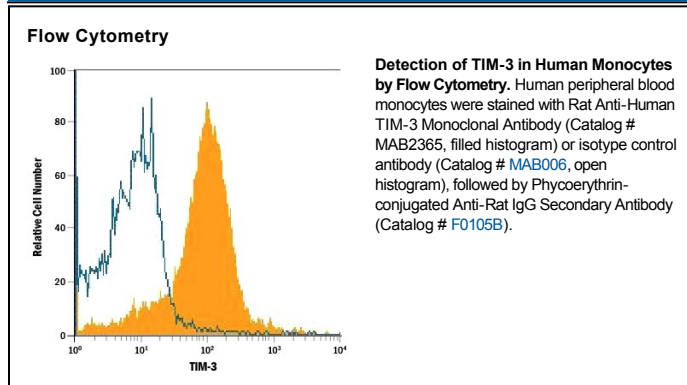
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human TIM-3 in direct ELISAs. Does not cross-react with recombinant human (rh) TIM-1, rhTIM-4, recombinant mouse (rm) TIM-1, rmTIM-2, rmTIM-3, rmTIM-5, or rmTIM-6.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 344823
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human TIM-3 Ser22-Arg200 Accession # Q8TDQ0.2
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>CyTOF-reported</b>	Amir, el-A.D. <i>et al.</i> (2013) <i>Nature Biotechnol.</i> <b>31</b> : 545. Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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<sup>+</sup> Th1 and CD8<sup>+</sup> Tc1) but not on helper T cells (CD4<sup>+</sup> Th2 and CD8<sup>+</sup> 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- $\gamma$  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:**

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4. Monney, L. *et al.* (2002) *Nature* **415**:536.
5. Sanchez-Fueyo, A. *et al.* (2003) *Nat. Immunol.* **4**:1093.
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9. Frisancho-Kiss, S. *et al.* (2006) *J. Immunol.* **176**:6411.