Species Reactivity
Human

Specificity
Detects human TIM-3 in direct ELISAs and Western blots. 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.

Source
Monoclonal Rat IgG2a, Clone # 344823

Purification
Protein A or G purified from hybridoma culture supernatant

Immunogen
Mouse myeloma cell line NS0-derived recombinant human TIM-3 Ser22-Arg200
Accession # Q8TDQ0.2

Conjugate
PerCP (Peridinin-chlorophyll Protein Complex)
Excitation Wavelength: 482 and 564 nm
Emission Wavelength: 675 nm

Formulation
Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.

*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
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<tbody>
<tr>
<td>Flow Cytometry</td>
<td>10 µL/10^6 cells See Below</td>
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</table>

DATA

Detection of TIM-3 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Rat Anti-Human TIM-3 PerCP-conjugated Monoclonal Antibody (Catalog # FAB2365C, filled histogram) or isotype control antibody (Catalog # IC006C, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping
The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage
Protect from light. Do not freeze.
- 12 months from date of receipt, 2 to 8 °C as supplied.
**BACKGROUND**

TIM-3 (T cell immunoglobulin and mucin domain-3), also known as HAVCR2, 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 region (1, 2). 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 (3). An alternatively spliced isoform is truncated within the mucin-like stalk.

Within the ECD, human TIM-3 shares 58% aa sequence identity with mouse and rat TIM-3. TIM-3 is up-regulated on several populations of activated myeloid cells (macrophage, monocyte, dendritic cell, microglia, mast cell) and T cells (Th1, CD8⁺, NK, Treg) (3-10). Its binding to Galectin-9 induces a range of immunosuppressive functions which enhance immune tolerance and inhibit anti-tumor immunity (11). TIM-3 ligation attenuates CD8⁺ and Th1 cell responses (11-13) and promotes the activity of Treg and myeloid derived suppressor cells (8, 11, 13, 14). In addition, dendritic cell-expressed TIM-3 dampens inflammation by enabling the phagocytosis of apoptotic cells and the cross-presentation of apoptotic cell antigens (4). It also binds the alarmin HMGB1, thereby preventing the activation of TLRs in response to released tumor cell DNA (7). TIM-3 interactions with Galectin-9 can alternatively trigger immune stimulatory effects, such as the coactivation of NK cell cytotoxicity (10).

**References:**