

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse TIM-4 in direct ELISAs.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 1018144
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line, NS0-derived mouse TIM-4 Ala22-Thr279 Accession # Q6U7R4
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	HEK293 Human Cell Line Transfected with Mouse TIM-4 and eGFP

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

TIM-4 (T cell; immunoglobulin; mucin-4), also known as SMUCKLER, is a 60 kDa member of the TIM family of immune regulating proteins. TIMs are type I transmembrane proteins with one Ig-like V domain and one Ser/Thr-rich mucin domain (1 - 3). The mouse TIM-4 cDNA encodes a 343 amino acid (aa) precursor that includes a 22 aa signal sequence, a 257 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 43 aa cytoplasmic tail (4). Structurally, TIM-4 is distinguished from other TIMs by the presence of an RGD motif in its Ig domain and the lack of a site for tyrosine phosphorylation in its cytoplasmic tail. The mucin domain in TIM-4 is larger than in TIM-1, -2, or -3. Within the ECD, mouse TIM-4 shares 27 - 33% aa sequence identity with mouse TIM-1, -2, and -3. The ECD of mouse TIM-4 shares 45% aa sequence identity with that of human and rat TIM-4. TIM-4 is expressed by macrophages and mature dendritic cells but not by lymphocytes (4, 5). TIM-4 binds specifically to TIM-1 which is also the cellular receptor for hepatitis A virus and has been implicated in the development of asthma (5 - 7). Among hematopoietic cells, TIM-1 is expressed on activated B and T cells, preferentially in the Th2 subset of CD4<sup>+</sup> T cells (5, 8). The interaction of TIM-4 with TIM-1 induces co-stimulatory and hyperproliferative signals in T cells (5).

### References:

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2. Mariat, C. *et al.* (2005) *Phil. Trans. R. Soc. B* **360**:1681.
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4. Shakhov, A.N. *et al.* (2004) *Eur. J. Immunol.* **34**:494.
5. Meyers, J.H. *et al.* (2005) *Nat. Immunol.* **6**:455.
6. Feigelstock, D. *et al.* (1998) *J. Virol.* **72**:6621.
7. McIntire, J.J. *et al.* (2001) *Nat. Immunol.* **2**:1109.
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