

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TIM-4 in direct ELISAs.
Source	Monoclonal Rat IgG _{2A} Clone # 1018144
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived mouse TIM-4 Ala22-Thr279 Accession # Q6U7R4
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	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.

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

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

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⁺ T cells (5, 8). The interaction of TIM-4 with TIM-1 induces co-stimulatory and hyperproliferative signals in T cells (5).

References:

1. Kuchroo, V.K. *et al.* (2003) *Nat. Rev. Immunol.* **3**:454.
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. Shakhov, A.N. *et al.* (2004) *Eur. J. Immunol.* **34**:494.
5. Meyers, J.H. *et al.* (2005) *Nat. Immunol.* **6**:455.
6. Feigelsstock, D. *et al.* (1998) *J. Virol.* **72**:6621.
7. McIntire, J.J. *et al.* (2001) *Nat. Immunol.* **2**:1109.
8. Khademi, M. *et al.* (2004) *J. Immunol.* **172**:7169.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.