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PRODUCT INFORMATION



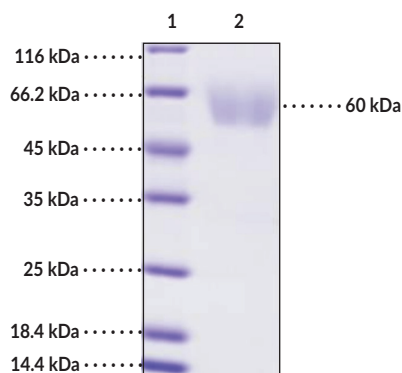
TIM-4 Extracellular Domain (human, recombinant) - Biotinylated Item No. 37098

Overview and Properties

Synonyms:	T Cell Immunoglobulin and Mucin Domain-containing Protein 4, T Cell Immunoglobulin Mucin Receptor 4, T Cell Membrane Protein 4, TIMD-4
Source:	Recombinant human C-terminal His-tagged TIM-4 extracellular domain expressed in HEK293 cells
Amino Acids:	25-315
Uniprot No.:	Q96H15
Molecular Weight:	32.7 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: TIM-4 Extracellular Domain (human, recombinant) - Biotinylated

SDS-PAGE Analysis of TIM-4 Extracellular Domain (human, recombinant) - Biotinylated. This protein has a calculated molecular weight of 32.7 kDa. It has an apparent molecular weight of approximately 60 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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PRODUCT INFORMATION



Description

TIM-4 is a type I transmembrane protein and member of the T cell immunoglobulin and mucin domain-containing (TIM) family of immunoregulatory proteins.¹ It is composed of an N-terminal immunoglobulin variable (IgV) domain that binds to phosphatidylserine, as well as a mucin stalk, which contains O- and N-linked glycosylation sites, a transmembrane domain, and a C-terminal cytoplasmic tail, which lacks a tyrosine phosphorylation site, unlike TIM-1 and TIM-3.^{1,2} TIM-4 is expressed in antigen-presenting cells (APCs) such as dendritic cells and macrophages and binds to TIM-1 on activated T cells.³ It is mainly involved in phagocytosis of apoptotic cells *via* recognition of phosphatidylserine, but also plays a role in T cell proliferation and survival, viral entry, and antitumor immunity.^{2,4,5,6} TIM-4 targeting antibodies prevent HIV-1 entry into host cells *in vitro* and enhance the efficacy of anticancer vaccines in a murine melanoma model.^{5,6} SNPs in *TIMD4* are associated with increased susceptibility of asthma in children.⁷ Cayman's TIM-4 Extracellular Domain (human, recombinant) - Biotinylated protein consists of 302 amino acids, has a calculated molecular weight of 32.7 kDa, and a predicted N-terminus of Glu25 after signal peptide cleavage. By SDS-PAGE, the apparent molecular mass of the protein is approximately 60 kDa due to glycosylation.

References

1. Freeman, G.J., Casasnovas, J.M., Umetsu, D.T., *et al.* TIM genes: A family of cell surface phosphatidylserine receptors that regulate innate and adaptive immunity. *Immunol. Rev.* **235(1)**, 172-189 (2010).
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4. Rodriguez-Manzanet, R., Meyers, J.H., Balasubramanian, S., *et al.* TIM-4 expressed on APCs induces T cell expansion and survival. *J. Immunol.* **180(7)**, 4706-4713 (2008).
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6. Baghdadi, M., Nagao, H., Yoshiyama, H., *et al.* Combined blockade of TIM-3 and TIM-4 augments cancer vaccine efficacy against established melanomas. *Cancer Immunol. Immunother.* **62(4)**, 629-637 (2013).
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