

Recombinant Human HAVCR2 Protein, His tagged

Cat. No. HAVCR2-188H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human Tim-3 protein (Ser22-Arg200) with C-terminus His tag was expressed in CHO Cells.
Species	Human
Source	CHO
Conjugation/Label	22-200 aa
Description	T cell immunoglobulin and mucin domain-containing protein 3 (Tim-3), also known as HAVCR2, is an inhibitory immune checkpoint receptor expressed on activated T cells, regulatory T cells (Tregs), natural killer (NK) cells, dendritic cells, and monocytes. Tim-3 plays a central role in regulating immune tolerance and limiting excessive inflammation. In chronic infection and cancer, sustained Tim-3 expression is a hallmark of T cell exhaustion, where effector T cells progressively lose proliferative capacity and cytokine production. Through inhibitory signaling pathways, Tim-3 dampens T cell receptor (TCR) signaling and modulates innate immune responses. Structurally, Tim-3 is a type I transmembrane glycoprotein composed of an N-terminal immunoglobulin variable (IgV) domain, a mucin-like stalk region rich in O-linked glycosylation sites, a single transmembrane domain, and a cytoplasmic tail. Unlike PD-1, Tim-3 lacks classical ITIM or ITSM motifs; instead, its cytoplasmic tail contains conserved tyrosine residues that mediate signaling through adaptor proteins. In the absence of ligand engagement, the adaptor Bat3 associates with the cytoplasmic tail and maintains T cell activity. Ligand binding promotes Bat3

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

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dissociation and recruitment of inhibitory signaling complexes, resulting in attenuated immune responses. Tim-3 interacts with multiple ligands, reflecting its context-dependent functions. Key ligands include galectin-9, which can induce apoptosis of Th1 cells; phosphatidylserine, facilitating clearance of apoptotic cells; CEACAM1, which cooperatively regulates T cell inhibition; and HMGB1, modulating innate immune activation. These diverse interactions allow Tim-3 to regulate both adaptive and innate immunity. Dysregulation of Tim-3 is implicated in cancer, chronic viral infections (such as HIV and hepatitis), autoimmune disorders, and inflammatory diseases. In tumors, Tim-3 is frequently co-expressed with PD-1 on exhausted T cells, contributing to immune escape. Elevated Tim-3 expression can also be observed in certain leukemias, where it may mark leukemic stem cells. Conversely, insufficient inhibitory signaling may exacerbate autoimmunity. Therapeutically, Tim-3 is an emerging target in immuno-oncology. Monoclonal antibodies that block Tim-3 are being evaluated in clinical trials, often in combination with PD-1/PD-L1 inhibitors to overcome resistance to checkpoint blockade. Beyond oncology, modulating Tim-3 signaling may offer strategies to rebalance immune responses in chronic infection or autoimmune disease. As understanding of its signaling network deepens, Tim-3 remains a promising target for next-generation immune therapies.

Form	Liquid, 1×PBS buffer, pH7.4, 0.22 µm filtered
Molecular Mass	This protein has a predicted molecular weight of 21.4 kDa. Under DTT-reducing conditions, the protein migrates at approximately 45 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The

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protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

Concentration

25 µg size is bottled at 0.2 mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name

HAVCR2 hepatitis A virus cellular receptor 2 [Homo sapiens (human)]

Official Symbol

HAVCR2

Synonyms

HAVCR2; hepatitis A virus cellular receptor 2; FLJ14428; Tim 3; TIM3; TIMD3; kidney injury molecule-3; T-cell membrane protein 3; T cell immunoglobulin mucin 3; T cell immunoglobulin mucin-3; T-cell immunoglobulin and mucin domain-containing protein 3; KIM-3; Tim-3; TIMD-3; HAVcr-2;

Gene ID

84868

mRNA Refseq

NM_032782

Protein Refseq

NP_116171

MIM

606652

UniProt ID

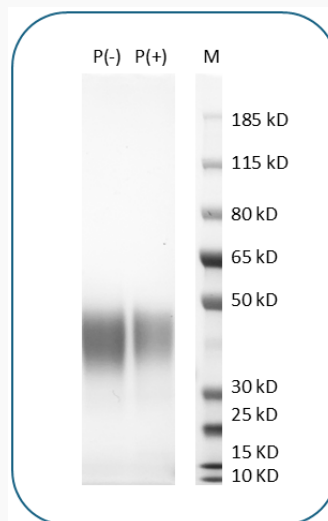
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SDS-PAGE



Human Tim-3 (C-His) Protein on SDS-PAGE under non-reducing and reducing conditions. The gel was stained for 1 hour with BlinkBlue Protein Staining Buffer. The purity of this protein appears to be greater than 95%.

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