

Active Recombinant Human HAVCR1 protein, Fc/Avi-tagged, Biotinylated

Cat. No. HAVCR1-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human HAVCR1(Ser21-Thr288) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Ser21-Thr288
Description	T cell immunoglobulin and mucin domain 1 (TIM-1), also known as KIM-1 and HAVCR1, is a member of the TIM family which is involved in the regulation of innate and adaptive immune responses (1). TIM-1 is a type I transmembrane protein that contains an N-terminal immunoglobulin-like domain, a mucin domain with O- and N-linked carbohydrates, a transmembrane segment, and a cytoplasmic signaling domain (2). Multiple TIM-1 variants can be produced due to polymorphisms or alternative splicing resulting in deletions in the mucin domain. Within the extracellular domain, human TIM-1 shares 41% amino acid sequence identity with mouse and rat TIM-1. TIM-1 is expressed on splenic B cells, IL-10+ regulatory B cells, CD4+ T cells, mast cells, invariant NKT (iNKT) cells, dendritic cells, kidney epithelium and a broad range of mucosal epithelium (1, 3-5). It is upregulated on activated Th2 cells, after dendritic cell maturation, and on kidney tubular epithelial cells after injury (6-9). Metalloproteinase-mediated cleavage of TIM-1 at the membrane-proximal region results in the release of a soluble form of TIM-1 which is detectable in the urine and in

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

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

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circulation (10). TIM-1 serves as a receptor for phosphatidylserine, LMIR5/CD300b, TIM-1 (homophilic), TIM-4, IgA, and the glycoproteins of a number of enveloped viruses (2, 11-16). Its interaction with phosphatidylserine enables TIM-1 to mediate the phagocytosis of apoptotic cells (12, 13) and iNKT cell activation (17). TIM-1 binding induces the activation of LMIR5-expressing myeloid cells, contributing to tissue homeostasis as well as damage following kidney injury (14). TIM-1 ligation co-stimulates T cell activation and enhances Th2 cytokine production (7, 15). In humans, TIM-1 serves as a cellular entry receptor for various viruses, including hepatitis A virus, Ebolavirus and Marburgvirus (2, 11). Our Avi-tag Biotinylated human TIM-1 Fc Chimera features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

Predicted N Terminal Ser21

Form Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

Bio-activity

The biotin to protein ratio is greater than 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA.

When Human HAVCR Affinity Purified Polyclonal Antibody is immobilized at 0.2 µg/mL, 100 µl/well,

Recombinant Human HAVCR1 Fc Chimera Avi-tag Protein binds with an ED50 of 1.5-9 ng/mL.

Measured by its ability to inhibit anti-CD3-induced proliferation of stimulated human T cells.

The ED50 for this effect is 0.12-1.2 µg/mL.

Molecular Mass 115-135 kDa, under reducing conditions

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Endotoxin	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Binding Activity, Bioactivity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	HAVCR1 hepatitis A virus cellular receptor 1 [Homo sapiens]
Official Symbol	HAVCR1
Synonyms	HAVCR1; hepatitis A virus cellular receptor 1; HAVCR; HAVCR 1; TIM 1; TIM1; TIMD1; kidney injury molecule 1; T-cell membrane protein 1; T cell immunoglobulin domain and mucin domain protein 1; TIM; KIM1; KIM-1; TIM-1; TIMD-1; HAVCR-1;
Gene ID	26762
mRNA Refseq	NM_001099414
Protein Refseq	NP_001092884

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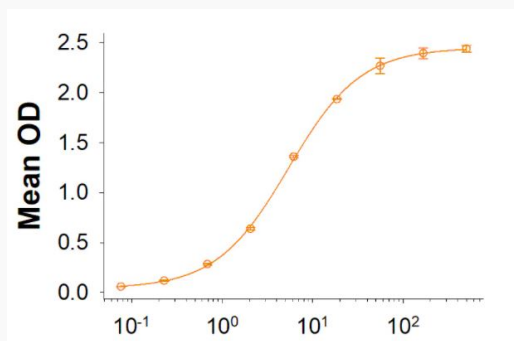
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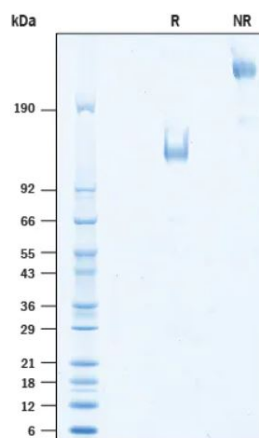
MIM 606518

UniProt ID Q96D42

Binding Activity



SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.