

TIM-1/KIM-1/HAVCR1 Protein, Canine, Recombinant (His)

General Information

Synonyms:	hepatitis A virus cellular receptor 1
Protein Construction:	A DNA sequence encoding the extracellular domain of canine HAVCR1 (XP_854888.1) (Tyr 21-Ser 160) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Canine
Expression Host:	HEK293 Cells
Accession:	A0A8C0N5Y0
Molecular Weight:	17.6 kDa (predicted); 35-40 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 96 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

HAV cellular receptor 1 (HAVCR1), also known as Kidney injury molecule 1 (KIM-1) and T cell immunoglobulin mucin 1 (TIM-1), is a type of integral membrane glycoprotein. KIM-1 protein is widely expressed with the highest levels in the kidney and testis. It has been shown to play a major role as a human susceptibility gene for asthma, allergy, and autoimmunity. IgA1λ is a specific ligand of KIM-1 protein and that their association has a synergistic effect in virus-receptor interactions. KIM-1 involves in the pathogenesis of acute kidney injury. It had

been confirmed that KIM-1 is a human urinary renal dysfunction biomarker. Moreover, KIM-1 protein is a novel regulatory molecule of flow-induced calcium signaling.

Reference

Tami C, et al. (2007) Immunoglobulin A (IgA) is a natural ligand of hepatitis A virus cellular receptor 1 (HAVCR1), and the association of IgA with HAVCR1 enhances virus-receptor interactions. *J Virol.* 81(7): 3437-46.

Rees AJ, et al. (2008) Kim-1/Tim-1: from biomarker to therapeutic target? *Nephrol Dial Transplant.* 23(11): 3394-6.

Chaturvedi S, et al. (2009) Assay validation for KIM-1: human urinary renal dysfunction biomarker. *Int J Biol Sci.* 5 (2): 128-34.

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