

## TIM-3/HAVCR2 Protein, Mouse (172a.a, HEK293, His)

Cat. No.:	HY-P72448
Synonyms:	Hepatitis A virus cellular receptor 2 homolog; T cell immunoglobulin and mucin domain3; HAVCR2; CD366; TIM3
Species:	Mouse
Source:	HEK293
Accession:	Q8VIM0 (R20-R191)
Gene ID:	171285
Molecular Weight:	30-50 kDa

### PROPERTIES

AA Sequence	R S L E N A Y V F E    V G K N A Y L P C S    Y T L S T P G A L V    P M C W G K G F C P W S Q C T N E L L R    T D E R N V T Y Q K    S S R Y Q L K G D L    N K G D V S L I I K N V T L D D H G T Y    C C R I Q F P G L M    N D K K L E L K L D    I K A A K V T P A Q T A H G D S T T A S    P R T L T T E R N G    S E T Q T L V T L H    N N N G T K I S T W A D E I K D S G E T    I R
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	<p>TIM-3/HAVCR2 protein, a cell surface receptor, plays a pivotal role in modulating both innate and adaptive immune responses. Predominantly considered as having an inhibitory function, the reported stimulating functions suggest a nuanced influence based on cellular context and ligand specificity. It regulates macrophage activation and inhibits T-helper type 1 lymphocyte (Th1)-mediated auto- and alloimmune responses, promoting immunological tolerance. In CD8+ cells, TIM-3 attenuates TCR-induced signaling by blocking NF-kappaB and NFAT promoter activities, leading to reduced IL-2 secretion. This inhibitory function is proposed to involve its association with LCK, impairing the phosphorylation of TCR subunits. Conversely, TIM-3 has been shown to activate TCR-induced signaling in T-cells, likely implicating ZAP70, LCP2,</p>
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LCK, and FYN. The receptor for LGALS9, TIM-3's binding to LGALS9 is believed to suppress T-cell responses, leading to apoptosis of antigen-specific cells. Additionally, TIM-3 may recognize phosphatidylserine on apoptotic cells, mediating their phagocytosis, and positively regulates innate immune responses, particularly in dendritic cells. It also plays a role in suppressing nucleic acid-mediated innate immune responses in tumor-infiltrating dendritic cells and negatively regulates NK cell function in LPS-induced endotoxic shock. Interactions with various signaling molecules, including HMGB1, BAG6, PIK3R1, PIK3R2, FYN, and ILF3, further contribute to the intricate regulatory functions of TIM-3 in immune responses.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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