

## TIM-4/TIMD-4 Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P70976
<b>Synonyms:</b>	T-cell immunoglobulin and mucin domain-containing protein 4; TIMD-4; T-cell immunoglobulin mucin receptor 4; TIM-4; T-cell membrane protein 4; TIMD4; TIM4
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	AAH08988.1 (E25-L315)
<b>Gene ID:</b>	91937
<b>Molecular Weight:</b>	60-90 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> E T V V T E V L G H   R V T L P C L Y S S   W S H N S N S M C W   G K D Q C P Y S G C K E A L I R T D G M   R V T S R K S A K Y   R L Q G T I P R G D   V S L T I L N P S E S D S G V Y C C R I   E V P G W F N D V K   I N V R L N L Q R A   S T T T H R T A T T T T R R T T T T S P   T T T R Q M T T T P   A A L P T T V V T T   P D L T T G T P L Q M T T I A V F T T A   N T C L S L T P S T   L P E E A T G L L T   P E P S K E G P I L T A E S E T V L P S   D S W S S A E S T S   A D T V L L T S K E   S K V W D L P S T S H V S M W K T S D S   V S S P Q P G A S D   T A V P E Q N K T T   K T G Q M D G I P M S M K N E M P I S Q   L           </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	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).
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	T-cell immunoglobulin and mucin domain-containing protein 4 (TIMD4, TIM4) is a membrane protein in TIM family and is a phosphatidylserine receptor that plays different role in immune response including phagocytosis of apoptotic cells and T-cell regulation. TIMD4 controls T-cell activation in a bimodal fashion, decreasing the activation of naive T-cells by inducing cell cycle arrest, while increasing proliferation of activated T-cells by activating AKT1 and ERK1/2 phosphorylations and
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subsequent signaling pathways.

TIMD4 also plays a role in efferocytosis which is the process by which apoptotic cells are removed by phagocytic cells, promoting the engulfment of apoptotic cells or exogenous particles by securing them to phagocytes through direct binding to phosphatidylserine present on apoptotic cells, while other engulfment receptors such as MERTK efficiently recognize apoptotic cells and mediate their ingestion.

TIMD4 also promotes autophagy process by suppressing NLRP3 inflammasome activity via activation of LKB1/PRKAA1 pathway in a phosphatidylserine-dependent mechanism<sup>[1][2][3][4]</sup>.

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

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