

HVEM/TNFRSF14 Protein, Mouse (HEK293, hFc)

Cat. No.:	HY-P71992
Synonyms:	Tnfrsf14; hvem; Tumor necrosis factor receptor superfamily member 14; Herpes virus entry mediator A; Herpesvirus entry mediator A; HveA; Tumor necrosis factor receptor-like 2; TR2; CD antigen CD270
Species:	Mouse
Source:	HEK293
Accession:	Q80WM9 (Q39-V207)
Gene ID:	230979
Molecular Weight:	50-65 kDa

PROPERTIES

AA Sequence	<p>Q P S C R Q E E F L V G D E C C P M C N P G Y H V K Q V C S E H T G T V C A P C</p> <p>P P Q T Y T A H A N G L S K C L P C G V C D P D M G L L T W Q E C S S W K D T V</p> <p>C R C I P G Y F C E N Q D G S H C S T C L Q H T T C P P G Q R V E K R G T H D Q</p> <p>D T V C A D C L T G T F S L G G T Q E E C L P W T N C S A F Q Q E V R R G T N S</p> <p>T D T T C S S Q V</p>
Biological Activity	<p>1. The ED₅₀ as determined by its ability to bind Human BTLA in functional ELISA is typically 1.17 µg/mL.</p> <p>2. Measured by its ability to inhibit TNF-beta -mediated cytotoxicity using L-929 mouse fibroblast cells. The ED₅₀ this effect is 1.688 µg/mL in the presence of 50 pg/mL of Recombinant Human TNF-beta, corresponding to a specific activity is 5.92×10² units/mg.</p>
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 ₂ 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	HVEM is widely expressed in a range of hematopoietic cells, including B cells, T cells, NK cells, monocytes and immature dendritic cells, and several non-hematopoietic cells and tissues, including the liver, kidney and lung ^[1] .
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The amino acid sequence of human HVEM protein has low homology for mouse HVEM protein. HVEM is known as the “molecular switch” models of activation and inhibition. HVEM provides an inhibitory or activating signal and bi-directionally regulates host immune function. HVEM binds to LIGHT or LIGHT- α exerts a positive stimulatory effect, stimulating lymphocyte proliferation, activation, and inducing inflammatory reactions; thus, providing a second stimulatory signal for T cell activation. Besides, the Binding of HVEM to BTLA and CD160 exerts an adverse regulatory effect, promoting signal transduction through the ERK1/2 and PI3K (phosphatidylinositol 3-kinase)-AKT (protein kinase B (PKB)) pathways, leading to the production of IFN γ , inhibiting T- and B-lymphocyte activation and proliferation and binding of HVEM to HSV-gD, which can promote HSV infection in target cells^{[2][3]}. HVEM is considered to be a molecular switch for immune responses, HVEM induces DCs to produce IL-10 and shows protection against experimental autoimmune myocarditis (EAM) caused by myosin^[4].

REFERENCES

- [1]. Ma B, et al. High expression of HVEM is associated with improved prognosis in intrahepatic cholangiocarcinoma. *Oncol Lett.* 2021 Jan;21(1):69.
- [2]. Yu X, et al. BTLA/HVEM Signaling: Milestones in Research and Role in Chronic Hepatitis B Virus Infection. *Front Immunol.* 2019 Mar 29;10:617.
- [3]. Rodriguez-Barbosa JI, et al. HVEM, a cosignaling molecular switch, and its interactions with BTLA, CD160 and LIGHT. *Cell Mol Immunol.* 2019 Jul;16(7):679-682.
- [4]. Cai G, et al. Amelioration of myocarditis by HVEM-overexpressing dendritic cells through induction of IL-10-producing cells. *Cardiovasc Res.* 2009 Dec 1;84(3):425-33.
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Caution: Product has not been fully validated for medical applications. For research use only.

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