PRODUCT INFORMATION

HVEM/CD270 Extracellular Domain (human, recombinant)

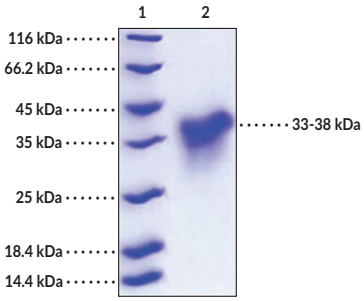
Item No. 31840

Overview and Properties

Synonyms:	ATAR, Herpes Virus Entry Mediator, HVEA, LIGHTR, TNFRSF14, TR2, Tumor Necrosis Factor Receptor Superfamily Member 14
Source:	Active recombinant human C-terminal His-tagged HVEM expressed in HEK293 cells
Amino Acids:	37-202
Uniprot No.:	Q92956
Molecular Weight:	19 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

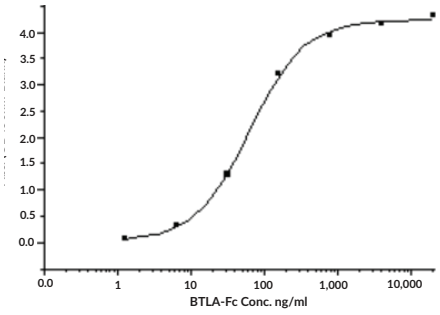
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: HVEM/CD270 Extracellular Domain

SDS-PAGE Analysis of HVEM/CD270 Extracellular Domain. This protein has a calculated molecular weight of 19 kDa. It has an apparent molecular weight of approximately 33-38 kDa by SDS-PAGE under reducing conditions due to glycosylation.



HVEM/CD270 Extracellular Domain Binding in a Binding Assay. Immobilized human HVEM/CD270 Extracellular Domain at 10 µg/ml (100 µl/well) can bind human BTLA-Fc with a linear range of 1.28-20 µg/ml.

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Description

Herpes virus entry mediator (HVEM), also known as CD270, is a type I transmembrane glycoprotein encoded by *TNFRSF14* in humans.[1,2] It is composed of an extracellular domain containing four cysteine-rich repeats (CRDs), a transmembrane domain, and a cytoplasmic domain, which facilitates intracellular signaling. HVEM is expressed on T and B cells, other hematopoietic cells, and mucosal epithelium.[2] It binds to B and T lymphocyte attenuator (BTLA), CD160, and LIGHT (Item No. 31841), also known as CD258, and induces co-activation or co-inhibition of T cells in a ligand-dependent manner via signaling through TNF receptor-associated factors (TRAFs) or inhibitory tyrosine-based motifs (ITIMs), respectively.[2,3] *Tnfrsf14-/-* mice exhibit decreased susceptibility to bacterial infection, increased pro-inflammatory cytokine secretion and mortality in a model of concanavalin A-induced hepatitis, and increased susceptibility to the induction of experimental autoimmune encephalomyelitis (EAE), indicating roles for HVEM in both infection immunity and autoimmunity.[4] Cayman's HVEM/CD270 Extracellular Domain (human, recombinant) protein can be used for ELISA and binding assay applications. This protein consists of 177 amino acids and has a calculated molecular weight of 19 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 33 to 38 kDa due to glycosylation.

References

1. Connolly, S.A., Landsburg, D.J., Carfi, A., *et al.* Structure-based analysis of the herpes simplex virus glycoprotein D binding site present on herpesvirus entry mediator HveA (HVEM). *J. Virol.* **76(21)**, 10894-10904 (2002).
2. Ware, C.F. Targeting the LIGHT-HVEM pathway. *Therapeutic targets of the TNF superfamily.* Grewal, I.S., editor, 1st ed., *Springer* (2009).
3. Shui, J.-W. and Kronenberg, M. HVEM: An unusual TNF receptor family member important for mucosal innate immune responses to microbes. *Gut Microbes* **4(2)**, 146-151 (2013).
4. Shui, J.-W., Steinberg, M.W., and Kronenberg, M. Regulation of inflammation, autoimmunity, and infection immunity by HVEM-BTLA signaling. *J. Leukoc. Biol.* **89(4)**, 517-523 (2011).

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