

HVEM
Catalog # PVGS1408**Specification**

HVEM - Product Information

Primary Accession [Q92956](#)
Species
Human

Sequence
Leu39-Lys184

Purity
> 95% as analyzed by SDS-PAGE
> 95% as analyzed by HPLC

Endotoxin Level
< 0.2 EU/ µg of protein by gel clotting method

Biological Activity
Assay #1: ED₅₀ < 0.1 µg/ml, measured by the neutralization assay using 929 cells in presence of 0.25 ng/ml of human TNF-beta, corresponding to a specific activity of > 1.0 × 10⁴ units/mg.
Assay #2: Immobilized HVEM, hFc, Human at 2.0 µg/ml (100 µl/well) can bind biotinylated human BTLA.
Assay #3: Immobilized HVEM, hFc, Human at 2.0 µg/ml (100 µl/well) can bind biotinylated CD160, hFc, Human (Cat. No.: Z03449).

Expression System
Sf9 insect cells

Formulation **Lyophilized after extensive dialysis against PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

HVEM - Additional Information

Gene ID 8764

Other Names
Tumor necrosis factor receptor superfamily member 14, Herpes virus entry mediator A, Herpesvirus entry mediator A, HveA, Tumor necrosis factor receptor-like 2, TR2, CD270, TNFRSF14 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=11912)
HGNC:11912

Target Background

Herpes Virus Entry Mediator (HVEM) is a transmembrane protein that is the receptor for TNFSF14 (also known as LIGHT) and is therefore referred to as TNFRSF14. HVEM is expressed broadly on immune cells such as T cells, natural killer (NK) cells and monocytes. The interaction of 3 molecules of LIGHT with three molecules of HVEM forms a hexameric complex that leads to the recruitment and retention of effector cells and activates NK cells to produce large amounts of IFN- γ and GM-CSF. In addition to the canonical binding partner LIGHT, HVEM can also bind to the inhibitory signaling protein, B- and T- lymphocyte attenuator (BTLA), which suppresses immune responses. Therefore, the HVEM network plays an important role in regulating immunity and the behavior of lymphocytes.

HVEM - Protein Information

Name TNFRSF14 ([HGNC:11912](#))

Function

Receptor for four distinct ligands: The TNF superfamily members TNFSF14/LIGHT and homotrimeric LTA/lymphotoxin-alpha and the immunoglobulin superfamily members BTLA and CD160, altogether defining a complex stimulatory and inhibitory signaling network (PubMed:10754304, PubMed:18193050, PubMed:23761635, PubMed:9462508). Signals via the TRAF2-TRAF3 E3 ligase pathway to promote immune cell survival and differentiation (PubMed:19915044, PubMed:9153189, PubMed:9162022). Participates in bidirectional cell-cell contact signaling between antigen presenting cells and lymphocytes. In response to ligation of TNFSF14/LIGHT, delivers costimulatory signals to T cells, promoting cell proliferation and effector functions (PubMed:10754304). Interacts with CD160 on NK cells, enhancing IFNG production and anti-tumor immune response (PubMed:23761635). In the context of bacterial infection, acts as a signaling receptor on epithelial cells for CD160 from intraepithelial lymphocytes, triggering the production of antimicrobial proteins and pro-inflammatory cytokines (By similarity). Upon binding to CD160 on activated CD4+ T cells, down- regulates CD28 costimulatory signaling, restricting memory and alloantigen-specific immune response (PubMed:18193050). May interact in cis (on the same cell) or in trans (on other cells) with BTLA (By similarity) (PubMed:19915044). In cis interactions, appears to play an immune regulatory role inhibiting in trans interactions in naive T cells to maintain a resting state. In trans interactions, can predominate during adaptive immune response to provide survival signals to effector T cells (By similarity) (PubMed:19915044).

Cellular Location

Cell membrane; Single-pass type I membrane protein

Tissue Location

Widely expressed, with the highest expression in lung, spleen and thymus. Expressed in a subpopulation of B cells and monocytes (PubMed:18193050). Expressed in naive T cells (PubMed:19915044).

HVEM - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

HVEM - Images