**HVEM/Fc CHIMERA (TNFSFR14)**

Human, Recombinant
Expressed in mouse NSO cells

Product Number H 9785

**Synonyms:** Herpes virus entry mediator, TR2, TNF receptor-like molecule, HveA, Herpes simplex virus entry protein A, HveAt, ATAR

**Product Description**
Recombinant human HVEM/Fc Chimera consists of amino acid residues 1-202 (extracellular domain of human HVEM) fused by means of a polypeptide linker to the Fc portion of human IgG1 that is histidine-tagged at the carboxyl terminus. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant HVEM is a disulfide-linked homodimer. Based on N-terminal sequencing, the amino terminus is Pro 37. The calculated molecular mass of the reduced HVEM/Fc monomer is approximately 45 kDa, but as a result of glycosylation, the recombinant HVEM/Fc chimera migrates as an approximately 60 kDa protein in SDS-PAGE.\(^1\)

HVEM is a type I membrane protein and a member of the TNF/NGF receptor superfamily referred to as TNFRSF14. Human HVEM cDNA encodes a 283 amino acid (aa) residue protein with a 36 aa signal peptide, a 166 aa extracellular domain, a 23 aa transmembrane region, and a 58 aa residue cytoplasmic region. The extracellular domain contains several cystein-rich regions which are characteristic of the TNF receptor superfamily.\(^4,5\) HVEM cellular ligands include lymphotoxin \(\alpha\) (TNF-\(\beta\)) and LIGHT (lymphotoxins, exhibits inducible expression and competes with HSV glycoprotein D for HVEM, a receptor expressed by T lymphocytes). This interaction allows HSV to pass through the cell membrane.\(^2,3\) LIGHT also reacts with the LT\(\beta\)R (the lymphotoxin \(\alpha\beta\) heterodimer receptor). HVEM is typically expressed in peripheral T cells, B cells, monocytes, stromal and lymphoid-rich tissues.\(^2,3,4\)

**Preparation Instructions**
Reconstitute the vial contents with sterile PBS containing 0.01% Human or bovine serum albumin. Stock solution concentration should be no less than 200 \(\mu\)g/ml.

**Storage/Stability**
Lyophilized samples are stable for more than six months at \(-20^\circ\)C. Upon reconstitution, store at 2-4 \(^\circ\)C for up to one month. For extended storage, store in working aliquots at \(-20^\circ\)C. Repeated freeze-thaw cycles should be avoided. Do not store in a frost-free freezer.

**Product Profile**
HVEM/Fc activity is measured by its ability to inhibit apoptosis in L-929 cells treated with 0.1 ng/ml of lymphotoxin \(\alpha\) (TNF-\(\beta\)). The \(ED_{50}\) range for this assay is typically 0.5 to 2 \(\mu\)g/ml.

Optimal dilutions should be determined by each laboratory for each application.

Purity: >95% by SDS-PAGE, visualized by silver stain.

Endotoxin level: < 0.1 ng/\(\mu\)g of protein as determined by the LAL (Limulus amebocyte lysate) method.

**References**