## **Elabscience**®

### Recombinant Human HVEM/TNFRSF14 Protein(His Tag)

### Catalog Number: PDMH100338

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description			
Species	Human		
Source	Mammalian-derived Human HVEM/TNFRSF14 proteins Leu39-Val202, with an C-		
	terminal His		
Calculated MW	17.9 kDa		
Observed MW	30-35 kDa		
Accession	Q92956		
Bio-activity	Not validated for activity		
Properties			
Purity	> 90% as determined by reducing SDS-PAGE.		
Endotoxin	< 1.0 EU/mg of the protein as determined by the LAL method		
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80		
	°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of		
	reconstituted samples are stable at $< -20^{\circ}$ C for 3 months.		
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.		
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with 5% Trehalose and 5%		
	Mannitol.		
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of		
	0.5 mg/mL. Concentration is measured by UV-Vis.		

#### Data

kDa	м	R
80 60	_	
40	_	
30	_	
20	-	
12		

SDS-PAGE analysis of Human HVEM/TNFRSF14 proteins, 2 μg/lane of Recombinant Human HVEM/TNFRSF14 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 30-35 KD

#### Background

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Herpesvirus entry mediator (HVEM), also referred to as TNFRSF14, TR2 (TNF receptor-like molecule) and ATAR ( another TRAF-associated receptor), is a member of type I transmembrane protein belonging to the TNF-receptor superfamily. It is expressed on many immune cells, including T and B cells, NK cells, monocytes, and neutrophils. Two TNF superfamily ligands lymphotoxin  $\alpha$  (TNF- $\beta$ ) and LIGHT (TNFSF14) are identified as cellular ligands for HVEM and initiate the positive signaling. However, recent studies have revealed that HVEM is also involved in the unique inhibitory signaling pathway for T cells through activating tyrosine phosphorylation of the immunoreceptor tyrosinebased inhibitory motif (ITIM) in B and T lymphocyte attenuator (BTLA). HVEM provides a stimulatory signal following engagement with LIGHT (TNFSF14) on T cells. In contrast, it can also provide an inhibitory signal to T cells when it binds the B and T lymphocyte attenuator (BTLA), a ligand member of the Immunoglobulin (Ig) superfamily. Thus, HVEM may be viewed as a molecular switch, capable of facilitating both stimulatory and inhibitory cosignaling in T cells. Substantial evidence from both human disease and from experimental mouse models has indicated that dysregulation of the LIGHT-HVEM-BTLA cosignaling pathway can cause inflammation in the lung and in mucosal tissues.