Data Sheet (Cat.No.TMPY-06941)

TargetMol

HVEM Protein, Human, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	HVEA;tumor necrosis factor receptor superfamily, member 14;CD270;HVEM;TR2;ATAR;LIGHTR
Protein Construction:	A DNA sequence encoding the Human TNFRSF14 (NP_003811.2)(Met1-Val202) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Leu 39
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_003811.2
Molecular Weight:	20.6 kDa (predicted); 39.5 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Human BTLA Protein (isoform1, Fc Tag) at 2 μg/mL (100 μL/well) can bind Recombinant Human HVEM Protein (ECD, His & AVI Tag), Biotinylated , the EC50 is 50-150 ng/mL.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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 α (TNF-β) 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 tyrosine-based 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.Cancer ImmunotherapyCo-inhibitory Immune Checkpoint TargetsImmune CheckpointImmune Checkpoint Detection: AntibodiesImmune Checkpoint Detection: ELISA AntibodiesImmune Checkpoint ProteinsImmune Checkpoint TargetsImmunotherapyTargeted Therapy

Reference

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Pasero C,et al.(2009) A role for HVEM, but not lymphotoxin-beta receptor, in LIGHT-induced tumor cell death and chemokine production. Eur J Immunol. 39(9): 2502-14.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481