

Recombinant Human BTLA-Fc Chimera (carrier-free)

Catalog# / Size	775702 / 10 µg 775704 / 25 µg 775706 / 100 µg
Regulatory Status	RUO
Other Names	CD272, B- and T-lymphocyte attenuator, B- and T-lymphocyte-associated protein
Description	<p>BTLA (B and T lymphocyte attenuator, CD272) is a type I transmembrane glycoprotein with four extracellular cysteine-rich domains. It is an inhibitory molecule structurally and functionally similar to cytotoxic T lymphocyte antigen-4 (CTLA-4) and programmed death-1 (PD-1). These molecules belong to the immunoglobulin superfamily that binds B7 family members. Different from CTLA-4 and PD-1 binding with the B7 family members, BTLA interacts with herpes virus entry mediator (HVEM) which belongs to TNFR family. BTLA/HVEM interaction was the first demonstration of crosstalk between these two family members. BTLA/HVEM interaction negatively modulates T cell activation. HVEM induces BTLA tyrosine phosphorylation and inhibits T-cell proliferation. There is accumulating evidence suggesting that BTLA/HVEM signaling also plays an important role in autoimmunity and infection at mucosal surfaces. The BTLA/HVEM interaction does not prevent the simultaneous binding of other HVEM ligands such as LIGHT or Lymphotoxin-alpha. BTLA is expressed on T cells, B cells, macrophages, dendritic cells, and natural killer cells. Constitutive expression level of BTLA on resting T cells are very low, but increase after the activation of T cells. BTLA is highly expressed on resting B cells.</p>

Product Details

Source	Human BTLA, amino acids Lys31-Trp153 (Accession # Q7Z6A9) with a C-terminal human IgG1 (Pro100-Lys330) Fc tag expressed in CHO cells.
Molecular Mass	The 362 amino acid recombinant protein has a predicted molecular mass of approximately 41 kD. The DTT-reduced protein migrates at approximately 55 kDa and non-reduced protein migrates at approximately 110 kDa by SDS-PAGE. The predicted N-terminal amino acid is Lys.
Formulation	0.22 µm filtered protein solution is in PBS, pH 7.2
Endotoxin Level	Less than 0.1 EU per µg protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	When human BTLA is immobilized at 1.0 µg/mL (100 µL/well), recombinant mouse HVEM binds with EC ₅₀ of 7 - 21 ng/mL in a functional ELISA.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Antigen Details

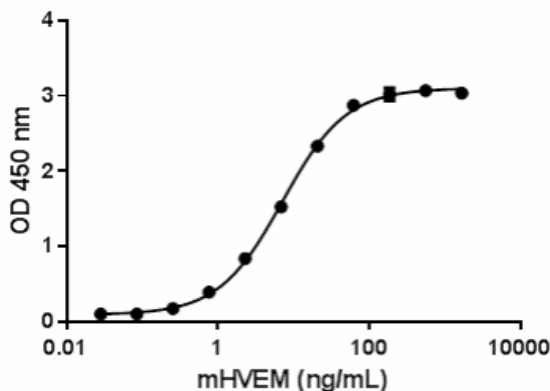
Distribution	T cells, B cells, macrophages, dendritic cells, and natural killer cells.
Function	Lymphocyte inhibitory receptor which inhibits lymphocytes during immune response
Interaction	Lymphocytes
Ligand/Receptor	HVEM
Bioactivity	Measured by its ability to bind mouse HVEM
Cell Targets	Lymphocytes
Cell Type	B cells, Dendritic cells, Tregs
Biology Area	Cancer Biomarkers, Cell Biology, Immunology, Inhibitory Molecules
Molecular Family	Immune Checkpoint Receptors, Soluble Receptors

Antigen References

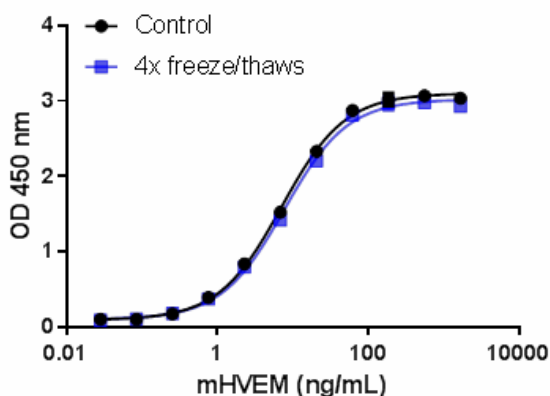
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2. Gavrieli M, *et al.* 2003. *Biochem. Biophys. Res. Commun.* 312: 1236-43
3. Gonzalez LC, *et al.* 2005. *Proc. Natl. Acad. Sci. U S A* 102: 1116-21
4. Sedy JR, *et al.* 2005. *Nat. Immunol.* 6: 90-98
5. Murphy KM, *et al.* *Nat. Rev. Immunol.* 6: 671-81

Gene ID [151888](#)

Product Data



Immobilized recombinant human BTLA at 1.0 µg/mL binds recombinant mouse HVEM in a dose dependent manner with EC₅₀ of 7 - 21 ng/mL.



Stability testing for Human BTLA. Human BTLA was aliquoted in PBS, pH 7.2 at 0.2 mg/mL. One aliquot was freeze/thawed four times (4x freeze/thaws), and compared to a control kept at 4°C (control). The samples were tested for their ability to bind mouse HVEM in a functional ELISA.

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