

BTLA Protein, Human, Recombinant (hFc)

General Information

Synonyms:	B and T lymphocyte associated;BTLA1;CD272
Protein Construction:	Lys31-Ser150
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q7Z6A9-1
Molecular Weight:	40.5 kDa (predicted); 60-70 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Human HVEM, His Tag at 2 µg/ml (100 µl/Well) on the plate. Dose response curve for Human BTLA, hFc Tag with the EC50 of 7.2 ng/ml determined by ELISA Immobilized Human BTLA, hFc Tag at 0.2 µg/ml (100 µl/Well) on the plate. Dose response curve for Biotinylated Anti-BTLA Antibody, hFc Tag with the EC50 of 11.4 ng/ml determined by ELISA.
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 0.22µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

BTLA is a inhibitory molecule which belongs to the Ig superfamily. It down-modulates immune responses. As such, reagents that regulate the binding of BTLA to its ligand or alter BTLA signaling have significant therapeutic

promise. BTLA is crucial to understand the mechanism(s) of action of these antibodies before attempting clinical applications. BTLA is not expressed by naive T cells, but it is induced during activation and remains expressed on T helper type 1 (T(H)1) but not T(H)2 cells. BTLA is a third inhibitory receptor on T lymphocytes with similarities to cytotoxic T lymphocyte-associated antigen 4 (CTLA-4) and programmed death 1 (PD-1). Cancer Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

Fourcade J, et al. (2012) CD8(+) T cells specific for tumor antigens can be rendered dysfunctional by the tumor microenvironment through upregulation of the inhibitory receptors BTLA and PD-1. *Cancer Res.* 72(4):887-96.
Kojima R, et al. (2011) Molecular basis for herpesvirus entry mediator recognition by the human immune inhibitory receptor CD160 and its relationship to the cosignaling molecules BTLA and LIGHT. *J Mol Biol.* 413(4):762-72.
Oki M, et al. (2011) A functional polymorphism in B and T lymphocyte attenuator is associated with susceptibility to rheumatoid arthritis. *Clin Dev Immunol.* 305656.

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