

TotalSeq™-C0170 anti-human CD272 (BTLA) Antibody

Catalog# / Size	344527 / 10 µg
Clone	MIH26
Regulatory Status	RUO
Other Names	BTLA, B and T lymphocyte attenuator
Isotype	Mouse IgG2a, κ
Barcode Sequence	GTTATTGGACTAAGG
Description	B and T lymphocyte attenuator (BTLA) is an Ig superfamily coinhibitory receptor with structural similarity to programmed cell death 1 (PD-1) and CTLA-4. BTLA is expressed on B cells, T cells, macrophages, dendritic cells, NKT cells, and NK cells. Engagement of BTLA by its ligand Herpes Virus Entry Mediator (HVEM) is critical for negatively regulating immune response. The absence of BTLA with HVEM inhibitory interactions leads to increased experimental autoimmune encephalomyelitis severity, enhanced rejection of partially mismatched allografts, an increased CD8 ⁺ memory T cell population, increased severity of colitis, and reduced effectiveness of T regulatory cells. BTLA plays an important role in the induction of peripheral tolerance of both CD4 ⁺ and CD8 ⁺ T cells in vivo. Tolerant T cells have significant up-regulated expression of BTLA compared with effector and naïve T cells. BTLA may cooperate with CTLA-4 and PD-1 to control T cell tolerance and autoimmunity. It has been reported that BTLA may regulate T cell function through binding to B7-H4.

Product Details

Verified Reactivity	Human
Reported Reactivity	African Green
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human BTLA transfected cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 1 mM EDTA.
Preparation	The antibody was purified by chromatography and conjugated with TotalSeq™-C oligomer under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	PG - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis and the oligomer sequence is confirmed by sequencing. TotalSeq™-C antibodies are compatible with 10x Genomics Chromium Single Cell Immune Profiling Solution .

To maximize performance, it is strongly recommended that the reagent be titrated for each application, and that you centrifuge the antibody dilution before adding to the cells at 14,000xg at 2 - 8°C for 10 minutes. Carefully pipette out the liquid avoiding the bottom of the tube and add to the cell suspension. For Proteogenomics analysis, the suggested starting amount of this reagent for titration is ≤ 1.0 µg per million cells in 100 µL volume. Refer to the corresponding TotalSeq™ protocol for specific staining instructions.

Buyer is solely responsible for determining whether Buyer has all intellectual property rights that are necessary for Buyer's intended uses of the BioLegend TotalSeq™ products. For example, for any technology platform Buyer uses with TotalSeq™, it is Buyer's sole responsibility to determine whether it has all necessary third party intellectual property rights to use that platform and TotalSeq™ with that platform.

Application Notes	Additional reported applications (for the relevant formats) include: inhibition of T cell proliferation
--------------------------	---

and cytokine production¹. Clone MIH26 has agonistic activity on BTLA, resulting in the inhibition of activation.

The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for use in *in vitro* and *in vivo* biofunctional assays.

Additional Product Notes

TotalSeq™ reagents are designed to profile protein levels at a single cell level following an optimized protocol similar to the CITE-seq workflow. A compatible single cell device (e.g. [10x Genomics Chromium System and Reagents](#)) and sequencer (e.g. Illumina analyzers) are required. Please contact [technical support](#) for more information, or visit [biolegend.com/totalseq](#).

The barcode flanking sequences are CGGAGATGTGTATAAGAGACAGNNNNNNNNNN (PCR handle), and NNNNNNNNCCCATATAAGA*A*A (capture sequence). N represents either randomly selected A, C, G, or T, and * indicates a phosphorothioated bond, to prevent nuclease degradation.

View more applications data for this product in our [Scientific Poster Library](#).

Application References

(PubMed link indicates BioLegend citation)

1. Otsuki N, *et al.* 2006. *Biochem. Bioph. Res. Co.* 344:1121.
2. Okano M, *et al.* 2008. *Clin. Exp. Allergy* 38:1891.

RRID

AB_2800919 (BioLegend Cat. No. 344527)

Antigen Details

Structure	Ig superfamily, with similar structure to CTLA-4 and PD-1
Distribution	B cells and T lymphocytes, NK cells and dendritic cells
Function	Negative regulation of T cell activation, proliferation and cytokine production
Ligand/Receptor	HVEM
Cell Type	B cells, Dendritic cells, NK cells, T cells, Tregs
Biology Area	Immunology, Inhibitory Molecules
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none">1. Watanabe N, <i>et al.</i> 2003. <i>Nat. Immunol.</i> 4:670.2. Sun Y, <i>et al.</i> 2009. <i>J. Immunol.</i> 183:1946.3. Gonzalez LC, <i>et al.</i> 2005. <i>P. Natl. Acad. Sci. USA</i> 102:1116.
Gene ID	151888

Related Protocols

[TotalSeq™-B or -C with 10x Feature Barcoding Technology](#)

Other Formats

Purified anti-human CD272 (BTLA), PE anti-human CD272 (BTLA), APC anti-human CD272 (BTLA), Brilliant Violet 421™ anti-human CD272 (BTLA), PerCP/Cyanine5.5 anti-human CD272 (BTLA), APC/Cyanine7 anti-human CD272 (BTLA), PE/Cyanine7 anti-human CD272 (BTLA), Alexa Fluor® 647 anti-human CD272 (BTLA), PE/Dazzle™ 594 anti-human CD272 (BTLA), FITC anti-human CD272 (BTLA), TotalSeq™-A0170 anti-human CD272 (BTLA), TotalSeq™-C0170 anti-human CD272 (BTLA), Ultra-LEAF™ Purified anti-human CD272 (BTLA), PE/Cyanine5 anti-human CD272 (BTLA), TotalSeq™-B0170 anti-human CD272 (BTLA), TotalSeq™-D0170 anti-human CD272 (BTLA)

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587