

## TotalSeq™-B0170 anti-human CD272 (BTLA) Antibody

<b>Catalog# / Size</b>	344533 / 10 µg
<b>Clone</b>	MIH26
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	BTLA, B and T lymphocyte attenuator
<b>Isotype</b>	Mouse IgG2a, κ
<b>Barcode Sequence</b>	GTTATTGGACTAAGG
<b>Description</b>	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 <sup>+</sup> 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 <sup>+</sup> and CD8 <sup>+</sup> 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

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

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.

<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: inhibition of T cell proliferation
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and cytokine production<sup>1</sup>. 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](http://biolegend.com/totalseq).

The barcode flanking sequences are GTGACTGGAGTTTCAGACGTGTGCTCTTCCGATCTNNNNNNNNN (PCR handle), and NNNNNNNNGCTTTAAGGCCGGTCCTAGC\*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\_2832673 (BioLegend Cat. No. 344533)

## Antigen Details

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<b>Structure</b>	Ig superfamily, with similar structure to CTLA-4 and PD-1
<b>Distribution</b>	B cells and T lymphocytes, NK cells and dendritic cells
<b>Function</b>	Negative regulation of T cell activation, proliferation and cytokine production
<b>Ligand/Receptor</b>	HVEM
<b>Cell Type</b>	B cells, Dendritic cells, NK cells, T cells, Tregs
<b>Biology Area</b>	Immunology, Inhibitory Molecules
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Watanabe N, <i>et al.</i> 2003. <i>Nat. Immunol.</i> 4:670.</li><li>2. Sun Y, <i>et al.</i> 2009. <i>J. Immunol.</i> 183:1946.</li><li>3. Gonzalez LC, <i>et al.</i> 2005. <i>P. Natl. Acad. Sci. USA</i> 102:1116.</li></ol>
<b>Gene ID</b>	<a href="#">151888</a>

## Related Protocols

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

## Other Formats

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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)

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