

DESCRIPTION

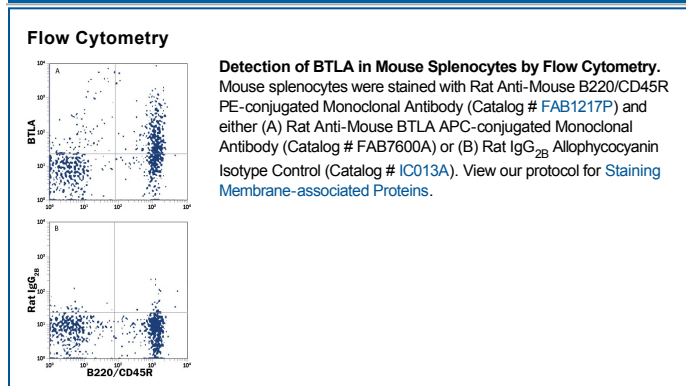
Species Reactivity	Mouse
Specificity	Detects mouse BTLA in direct ELISAs and Western blots.
Source	Monoclonal Rat IgG _{2B} Clone # 753131
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse BTLA Met1-Pro176 Accession # Q7TSA3
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	10 μ L/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

B- and T-lymphocyte attenuator (BTLA; also known as CD272) is a 70 kDa, Ig-superfamily, type I transmembrane glycoprotein that is structurally similar to the CD28 family of T cell co-stimulatory or coinhibitory molecules (1-3). Unlike CD28 family members, however, the BTLA extracellular Ig domain is an I-type rather than a V-type domain, and BTLA does not form homodimers (4). BTLA also differs from CD28 family members through the interaction of its Ig domain with the TNF superfamily member HVEM (herpes virus entry mediator; also known as TNFSF14) rather than with B7 family ligands (5). BTLA is a coinhibitory molecule expressed on T cells, B cells and, depending on the mouse strain, macrophages, dendritic and NK cells (6). Expression is low in naïve T cells and increased during antigen-specific induction of anergy. In B cells, BTLA is highest when cells are mature and naïve (6). BTLA apparently limits T cell numbers, since deletion of BTLA results in overproduction of T cells, especially CD8⁺ memory T cells that are hyper-responsive to TCR crosslinking (7). The 305 amino acid (aa) BTLA contains a 29 aa signal sequence, a 153 aa extracellular domain (ECD), a 21 aa transmembrane sequence, and a 102 aa cytoplasmic domain. There are two ITIM motifs and three Tyr phosphorylation sites in the cytoplasmic tail that mediate inhibitory signaling (8, 9). The binding of the BTLA to HVEM does not preclude additional binding of a mammalian stimulatory HVEM ligand, either LIGHT or lymphotoxin- α to the complex (4). At least three alleles varying by up to ten extracellular amino acids occur in different mouse strains (6). The ECD of C57BL/6 BTLA shows 51%, 77% and 40% aa identity to that of human, rat and canine BTLA, respectively. A splice variant lacking the Ig domain, termed BTLAs, has been reported (3).

References:

1. Murphy, K. M. *et al.* (2006) *Nat. Rev. Immunol.* **6**:671.
2. Croft, M. (2005) *Trends Immunol.* **26**:292.
3. Watanabe, N. *et al.* (2003) *Nat. Immunol.* **4**:670.
4. Compaan, D. M. *et al.* (2005) *J. Biol. Chem.* **280**:39553.
5. Sedy, J. R. *et al.* (2005) *Nat. Immunol.* **6**:90.
6. Hurchla, M. A. *et al.* (2005) *J. Immunol.* **174**:3377.
7. Krieg, C. *et al.* (2007) *Nat. Immunol.* **8**:162.
8. Gavrieli, M. *et al.* (2003) *Biochem. Biophys. Res. Commun.* **312**:1236.
9. Chemnitz, J. M. *et al.* (2006) *J. Immunol.* **176**:6603.