

BTLA (4B8): sc-517004

BACKGROUND

B and T lymphocyte attenuator (BTLA) is an immunoglobulin domain-containing glycoprotein whose expression is induced during T-cell activation. BTLA is similar to CTLA-4 and PD-1, all of which are coinhibitory receptors belonging to the CD28 family. However, unlike CTLA-4 and PD-1, BTLA does not interact with B7-Ig family counter receptors. Rather, the herpesvirus entry mediator (HVEM), a TNF receptor, acts as a molecular switch that modulates T-cell activation by propagating inhibitory signals through BTLA. The BTLA-HVEM interaction is conserved between mouse and human, suggesting that this system is an important pathway regulating lymphocyte activation.

REFERENCES

1. Watanabe, N., et al. 2003. BTLA is a lymphocyte inhibitory receptor with similarities to CTLA-4 and PD-1. *Nat. Immunol.* 4: 670-679.
2. Gonzalez, L.C., et al. 2005. A coreceptor interaction between the CD28 and TNF receptor family members B and T lymphocyte attenuator and herpesvirus entry mediator. *Proc. Natl. Acad. Sci. USA* 102: 1116-1121.
3. Cheung, T.C., et al. 2005. Evolutionarily divergent herpesviruses modulate T cell activation by targeting the herpesvirus entry mediator cosignaling pathway. *Proc. Natl. Acad. Sci. USA* 102: 13218-13213.
4. Sedy, J.R., et al. 2005. B and T lymphocyte attenuator regulates T cell activation through interaction with herpesvirus entry mediator. *Nat. Immunol.* 6: 90-98.
5. Tao, R., et al. 2005. Differential effects of B and T lymphocyte attenuator and programmed death-1 on acceptance of partially versus fully MHC-mismatched cardiac allografts. *J. Immunol.* 175: 5774-5782.
6. Krieg, C., et al. 2005. Functional analysis of B and T lymphocyte attenuator engagement on CD4⁺ and CD8⁺ T cells. *J. Immunol.* 175: 6420-6427.

CHROMOSOMAL LOCATION

Genetic locus: BTLA (human) mapping to 3q13.2.

SOURCE

BTLA (4B8) is a mouse monoclonal antibody raised against amino acids 190-289 representing partial length BTLA of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

BTLA (4B8) is recommended for detection of BTLA of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BTLA siRNA (h): sc-45458, BTLA shRNA Plasmid (h): sc-45458-SH and BTLA shRNA (h) Lentiviral Particles: sc-45458-V.

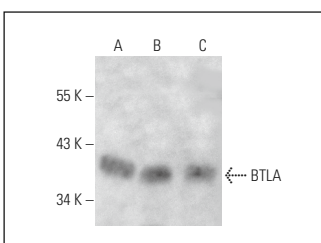
Molecular Weight of BTLA: 33 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Raji whole cell lysate: sc-364236 or SUP-T1 whole cell lysate: sc-364796.

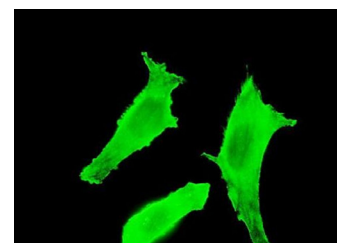
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



BTLA (4B8): sc-517004. Western blot analysis of BTLA expression in Jurkat (A), Raji (B) and SUP-T1 (C) whole cell lysates.



BTLA (4B8): sc-517004. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

RESEARCH USE

For research use only, not for use in diagnostic procedures.