

BTBD14B (E-3): sc-376216

BACKGROUND

The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C₂H₂-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. BTBD14B (BTB/POZ domain-containing protein 14B), also known as NACC1 (nucleus accumbens associated 1), BEND8 or NAC1, is a 527 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one BTB (POZ) domain. Existing as a homooligomer that interacts with HDAC3 and HDAC4, BTBD14B functions as a transcriptional repressor that influences the transcriptional activity of CRIF1 and is required for proteasome recruitment to the nucleus and cytoplasm in dendritic spines. BTBD14B is overexpressed in multiple carcinomas, suggesting a role in tumor development and metastasis.

REFERENCES

1. Bardwell, V.J. and Treisman, R. 1994. The POZ domain: a conserved protein-protein interaction motif. *Genes Dev.* 8: 1664-1677.
2. Zollman, S., et al. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 91: 10717-10721.
3. Korutla, L., et al. 2002. Differences in expression, actions and cocaine regulation of two isoforms for the brain transcriptional regulator NAC1. *Neuroscience* 110: 421-429.
4. Korutla, L., et al. 2005. The POZ/BTB protein NAC1 interacts with two different histone deacetylases in neuronal-like cultures. *J. Neurochem.* 94: 786-793.

CHROMOSOMAL LOCATION

Genetic locus: NACC1 (human) mapping to 19p13.2; Nacc1 (mouse) mapping to 8 C3.

SOURCE

BTBD14B (E-3) is a mouse monoclonal antibody raised against amino acids 284-357 mapping within an internal region of BTBD14B of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BTBD14B (E-3) is available conjugated to agarose (sc-376216 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376216 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376216 PE), fluorescein (sc-376216 FITC), Alexa Fluor® 488 (sc-376216 AF488), Alexa Fluor® 546 (sc-376216 AF546), Alexa Fluor® 594 (sc-376216 AF594) or Alexa Fluor® 647 (sc-376216 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376216 AF680) or Alexa Fluor® 790 (sc-376216 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

BTBD14B (E-3) is recommended for detection of BTBD14B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

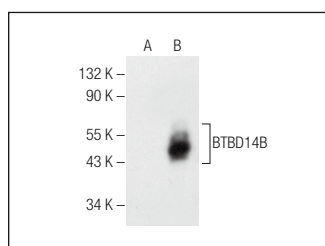
Suitable for use as control antibody for BTBD14B siRNA (h): sc-97419, BTBD14B siRNA (m): sc-141773, BTBD14B shRNA Plasmid (h): sc-97419-SH, BTBD14B shRNA Plasmid (m): sc-141773-SH, BTBD14B shRNA (h) Lentiviral Particles: sc-97419-V and BTBD14B shRNA (m) Lentiviral Particles: sc-141773-V.

Molecular Weight (predicted) of BTBD14B: 57 kDa.

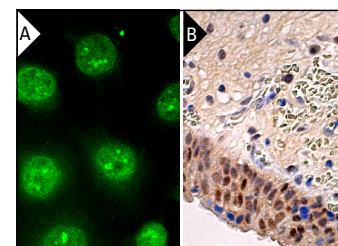
Molecular Weight (observed) of BTBD14B: 62 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or BTBD14B (h): 293T Lysate: sc-116444.

DATA



BTBD14B (E-3): sc-376216. Western blot analysis of BTBD14B expression in non-transfected: sc-117752 (A) and human BTBD14B transfected: sc-116444 (B) 293T whole cell lysates.



BTBD14B (E-3): sc-376216. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells (B).

SELECT PRODUCT CITATIONS

1. Xia, Z., et al. 2019. NAC1 potentiates cellular antiviral signaling by bridging MAVS and TBK1. *J. Immunol.* 203: 1001-1011.
2. Soon, H.R., et al. 2023. Seizure enhances SUMOylation and zinc-finger transcriptional repression in neuronal nuclei. *iScience* 26: 107707.
3. Zhang, Y., et al. 2025. NACC1 accelerates the progression of AML by regulating the ADAM9/PI3K/AKT axis. *Int. J. Med. Sci.* 22: 630-640.

STORAGE

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

RESEARCH USE

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