

# BTBD4 (Q-21): sc-130984

## BACKGROUND

BTBD4 (BTB/POZ domain-containing protein 4), also known as zinc-finger protein 340 (ZNF340) or zinc-finger and BTB domain-containing protein 46 (ZBTB46), is a 589 amino acid protein that contains one BTB/POZ domain. The BTB/POZ domain mediates homomeric and heteromeric POZ-POZ interactions and is common to transcriptional regulators involved in chromatin modeling. In several BTB/POZ containing proteins, including Bcl-6 and the promyelocytic leukemia zinc-finger (PLZF) oncoprotein, this domain interacts with the SMRT/N-CoR-mSin3A HDAC complex and is directly involved in repressing and silencing gene transcription. When this domain is deleted, as with the oncogenic PLZF-RAR chimera of promyelocytic leukemias, this transcriptional repression is attenuated. This suggests that BTBD4 may play a role in transcription regulation.

## REFERENCES

1. Wong, C.W. and Privalsky, M.L. 1998. Components of the SMRT corepressor complex exhibit distinctive interactions with the POZ domain oncoproteins PLZF, PLZF-RAR $\alpha$ , and Bcl-6. *J. Biol. Chem.* 273: 27695-27702.
2. David, G., Alland, L., Hong, S.H., Wong, C.W., DePinho, R.A. and Dejean, A. 1998. Histone deacetylase associated with mSin3A mediates repression by the acute promyelocytic leukemia-associated PLZF protein. *Oncogene* 16: 2549-2556.
3. Huynh, K.D. and Bardwell, V.J. 1998. The Bcl-6 POZ domain and other POZ domains interact with the corepressors N-CoR and SMRT. *Oncogene* 17: 2473-2484.
4. Ahmad, K.F., Engel, C.K. and Privé, G.G. 1998. Crystal structure of the BTB domain from PLZF. *Proc. Natl. Acad. Sci. USA* 95: 12123-12128.
5. Deltour, S., Guerardel, C. and Leprince, D. 1999. Recruitment of SMRT/N-CoR-mSin3A-HDAC-repressing complexes is not a general mechanism for BTB/POZ transcriptional repressors: the case of HIC-1 and  $\gamma$ FBP-B. *Proc. Natl. Acad. Sci. USA* 96: 14831-14836.
6. Melnick, A., Carlile, G., Ahmad, K.F., Kiang, C.L., Corcoran, C., Bardwell, V., Prive, G.G. and Licht, J.D. 2002. Critical residues within the BTB domain of PLZF and Bcl-6 modulate interaction with corepressors. *Mol. Cell. Biol.* 22: 1804-1818.
7. Humphray, S.J., Oliver, K., Hunt, A.R., Plumb, R.W., Loveland, J.E., Howe, K.L., Andrews, T.D., Searle, S., Hunt, S.E., Scott, C.E., Jones, M.C., Ainscough, R., Almeida, J.P., Ambrose, K.D., Ashwell, R.I., Babbage, A.K., Babbage, S., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
8. Kelly, K.F. and Daniel, J.M. 2006. POZ for effect — POZ-ZF transcription factors in cancer and development. *Trends Cell Biol.* 16: 578-587.

## CHROMOSOMAL LOCATION

Genetic locus: ZBTB46 (human) mapping to 20q13.33.

## STORAGE

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

## SOURCE

BTBD4 (Q-21) is an affinity purified rabbit polyclonal antibody raised against synthetic BTBD4 peptide of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG in 500  $\mu$ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

BTBD4 (Q-21) is recommended for detection of BTBD4 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BTBD4 siRNA (h): sc-72668, BTBD4 shRNA Plasmid (h): sc-72668-SH and BTBD4 shRNA (h) Lentiviral Particles: sc-72668-V.

Molecular Weight (predicted) of BTBD4: 64 kDa.

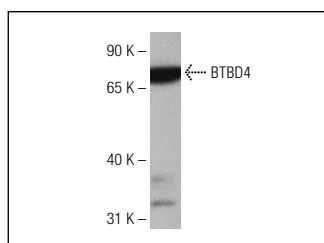
Molecular Weight (observed) of BTBD4: 70 kDa.

Positive Controls: human placenta tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



BTBD4 (Q-21): sc-130984. Western blot analysis of BTBD4 expression in human placenta tissue extract.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.