

DBC-2 (m): 293T Lysate: sc-119665

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. DBC-2 (deleted in breast cancer 2 gene protein), also known as RHOBTB2 (Rho-related BTB domain-containing protein 2), is a 727 amino acid member of the RhoBTB subfamily of Rho GTPases. Members of the RhoBTB subfamily are evolutionarily conserved and are characterized by a proline-rich region, a GTPase domain and two tandem BTB repeats. Expressed ubiquitously with highest levels in neural tissue, heart, brain and fetal lung, DBC-2 contains two BTB (POZ) domains through which it may bind to and regulate the function of target proteins, such as CUL-3. Additionally, DBC-2 is thought to function as a regulator of cell cycle and apoptosis events. Under normal conditions, DBC-2 is thought to exhibit tumor suppressor activity. Mutations in the gene encoding DBC-2 are associated with breast cancer, suggesting that mutated DBC-2 may play a role in carcinogenesis.

REFERENCES

1. Ramos, S., et al. 2002. Genomic organization and expression profile of the small GTPases of the RhoBTB family in human and mouse. *Gene* 298: 147-157.
2. Hamaguchi, M., et al. 2002. DBC2, a candidate for a tumor suppressor gene involved in breast cancer. *Proc. Natl. Acad. Sci. USA* 99: 13647-13652.
3. Wilkins, A., et al. 2004. RhoBTB2 is a substrate of the mammalian Cul3 ubiquitin ligase complex. *Genes Dev.* 18: 856-861.
4. Siripurapu, V., et al. 2005. DBC2 significantly influences cell-cycle, apoptosis, cytoskeleton and membrane-trafficking pathways. *J. Mol. Biol.* 346: 83-89.
5. Chang, F.K., et al. 2006. DBC2 is essential for transporting vesicular stomatitis virus glycoprotein. *J. Mol. Biol.* 364: 302-308.
6. Ohadi, M., et al. 2007. Mutation analysis of the DBC2 gene in sporadic and familial breast cancer. *Acta Oncol.* 46: 770-772.
7. Yoshihara, T., et al. 2007. Cyclin D1 down-regulation is essential for DBC2's tumor suppressor function. *Biochem. Biophys. Res. Commun.* 358: 1076-1079.
8. Collado, D., et al. 2007. DBC2 resistance is achieved by enhancing 26S proteasome-mediated protein degradation. *Biochem. Biophys. Res. Commun.* 360: 600-603.
9. Freeman, S.N., et al. 2008. RhoBTB2 (DBC2) is a mitotic E2F1 target gene with a novel role in apoptosis. *J. Biol. Chem.* 283: 2353-2362.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Rhobtb2 (mouse) mapping to 14 D2.

PRODUCT

DBC-2 (m): 293T Lysate represents a lysate of mouse DBC-2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

DBC-2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive DBC-2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

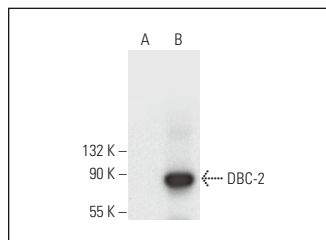
DBC-2 (G-12): sc-398774 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse DBC-2 expression in DBC-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



DBC-2 (G-12): sc-398774. Western blot analysis of DBC-2 expression in non-transfected: sc-117752 (A) and mouse DBC-2 transfected: sc-119665 (B) 293T whole cell lysates.

RESEARCH USE

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