DBC-2 (C-13): sc-87065



The Power to Question

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

- 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.
- Hamaguchi, M., et al. 2002. DBC-2, 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 CUL-3 ubiquitin ligase complex. Genes Dev. 18: 856-861.
- Siripurapu, V., et al. 2005. DBC-2 significantly influences cell-cycle, apoptosis, cytoskeleton and membrane-trafficking pathways. J. Mol. Biol. 346: 83-89.
- Chang, F.K., et al. 2006. DBC-2 is essential for transporting vesicular stomatitis virus glycoprotein. J. Mol. Biol. 364: 302-308.
- 6. Ohadi, M., et al. 2007. Mutation analysis of the DBC-2 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 DBC-2's tumor suppressor function. Biochem. Biophys. Res. Commun. 358: 1076-1079.
- Collado, D., et al. 2007. DBC-2 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 (DBC-2) is a mitotic E2F1 target gene with a novel role in apoptosis. J. Biol. Chem. 283: 2353-2362.

CHROMOSOMAL LOCATION

Genetic locus: RHOBTB2 (human) mapping to 8p21.3; Rhobtb2 (mouse) mapping to 14 D2.

SOURCE

DBC-2 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DBC-2 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87065 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DBC-2 (C-13) is recommended for detection of DBC-2 of mouse, rat and 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); non cross-reactive with DBC-1.

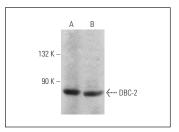
DBC-2 (C-13) is also recommended for detection of DBC-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DBC-2 siRNA (h): sc-77501, DBC-2 siRNA (m): sc-142879, DBC-2 shRNA Plasmid (h): sc-77501-SH, DBC-2 shRNA Plasmid (m): sc-142879-SH, DBC-2 shRNA (h) Lentiviral Particles: sc-77501-V and DBC-2 shRNA (m) Lentiviral Particles: sc-142879-V.

Molecular Weight of DBC-2: 83 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or mouse lung extract: sc-2390.

DATA



DBC-2 (C-13): sc-87065. Western blot analysis of DBC-2 expression in mouse lung tissue extract (**A**) and HL-60 whole cell Ivsate (**B**).

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.



Try **DBC-2 (G-12): sc-398774**, our highly recommended monoclonal alternative to DBC-2 (C-13).