SANTA CRUZ BIOTECHNOLOGY, INC.

DBC-2 (G-12): sc-398774

SANTA CRUZ BIOTECHNOLOGY

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

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. 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.
4. Siripurapu, V., et al. 2005. DBC-2 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.

CHROMOSOMAL LOCATION

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

SOURCE

DBC-2 (G-12) is a mouse monoclonal antibody raised against amino acids 333-414 mapping within an internal region of DBC-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DBC-2 (G-12) is available conjugated to agarose (sc-398774 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398774 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398774 PE), fluorescein (sc-398774 FITC), Alexa Fluor® 488 (sc-398774 AF488), Alexa Fluor® 546 (sc-398774 AF546), Alexa Fluor® 594 (sc-398774 AF594) or Alexa Fluor® 647 (sc-398774 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398774 AF680) or Alexa Fluor® 790 (sc-398774 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DBC-2 (G-12) is recommended for detection of DBC-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

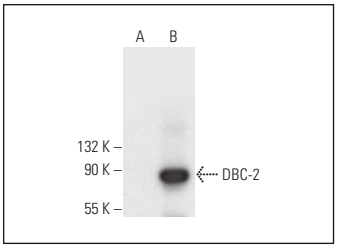
Molecular Weight of DBC-2: 83 kDa.

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

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



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.

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.

PROTOCOLS

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