SANTA CRUZ BIOTECHNOLOGY, INC.

DBC-1 (WQ7): sc-101228

BACKGROUND

DBC-1 (deleted in breast cancer gene 1 protein), also known as p30 DBC protein, is one of the genes located within the region of chromosome 8 (8p21-8p23) that is homozygously deleted in some breast cancers. DBC-1 contains a nuclear localization signal, an N-terminal leucine zipper, an EF hand and a C-terminal coiled-coil region. DBC-1 is closely related to DIS but lacks the SAP domain. During death signaling mediated by TNFα, endogenous DBC-1 undergoes caspase-dependent processing to generate DBC-1 p120 and p66, both of which include the C-terminus of the protein. Both DBC-1 p120 and p66 relocate to the cytoplasm. Overexpression of the DBC-1 p120 form results in mitochondrial clustering and matrix condensation and increases the sensitivity of cells to TNFα-mediated apoptosis. In addition, DBC-1 directly interacts with unliganded ERα, stabilizing its expression and therefore collaborating to suppress apoptosis and promote hormone-independent cell growth.

REFERENCES

1. 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.
2. de Leeuw, R.J., et al. 2004. Comprehensive whole genome array CGH profiling of mantle cell lymphoma model genomes. Hum. Mol. Genet. 13: 1827-1837.
3. Rubio-Moscardo, F., et al. 2005. Characterization of 8p21.3 chromosomal deletions in B cell lymphoma: TRAIL-R1 and TRAIL-R2 as candidate dosage-dependent tumor suppressor genes. Blood 106: 3214-3222.
4. Sundararajan, R., et al. 2005. Caspase-dependent processing activates the proapoptotic activity of deleted in breast cancer-1 during tumor necrosis factor-α-mediated death signaling. Oncogene 24: 4908-4920.
5. Downey, C., et al. 2006. Pressure stimulates breast cancer cell adhesion independently of cell cycle and apoptosis regulatory protein (CARP)-1 regulation of focal adhesion kinase. Am. J. Surg. 192: 631-635.
6. Ye, H., et al. 2007. Genomic assessments of the frequent loss of heterozygosity region on 8p21.3 approximately p22 in head and neck squamous cell carcinoma. Cancer Genet. Cytogenet. 176: 100-106.
7. Trauernicht, A.M., et al. 2007. Modulation of estrogen receptor α protein level and survival function by DBC-1. Mol. Endocrinol. 21: 1526-1536.
8. Koch, H.B., et al. 2007. Large-scale identification of c-MYC-associated proteins using a combined TAP/MudPIT approach. Cell Cycle 6: 205-217.

CHROMOSOMAL LOCATION

Genetic locus: KIAA1967 (human) mapping to 8p21.3.

SOURCE

DBC-1 (WQ7) is a mouse monoclonal antibody raised against recombinant DBC-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

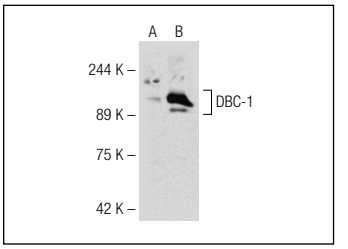
DBC-1 (WQ7) is recommended for detection of DBC-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DBC-1 siRNA (h): sc-72274, DBC-1 shRNA Plasmid (h): sc-72274-SH and DBC-1 shRNA (h) Lentiviral Particles: sc-72274-V.

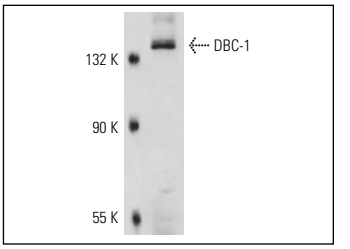
Molecular Weight of DBC-1: 150 kDa.

Positive Controls: DBC-1 (h2): 293T lysate: sc-116793, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

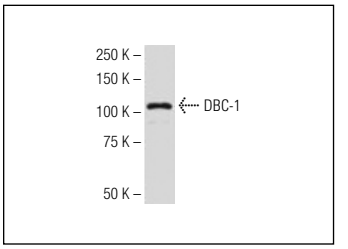
DATA



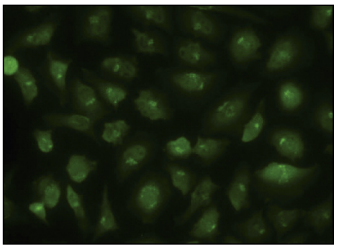
DBC-1 (WQ7): sc-101228. Western blot analysis of DBC-1 expression in non-transfected: sc-117752 (**A**) and human DBC-1 transfected: sc-116793 (**B**) 293T whole cell lysates.



DBC-1 (WQ7): sc-101228. Western blot analysis of DBC-1 expression in HeLa whole cell lysate.



DBC-1 (WQ7): sc-101228. Western blot analysis of DBC-1 expression in A549 whole cell lysate.



DBC-1 (WQ7): sc-101228. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization.

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 or our catalog for detailed protocols and support products.