

Dapper1 (D-19): sc-74599

BACKGROUND

Dapper1, also known as DACT1 (dapper, antagonist of β -catenin, homolog 1), DPR1, HNG3 or FRODO, is an 836 amino acid protein that localizes to both the nucleus and the cytoplasm and contains a C-terminal PDZ-binding motif that is thought to mediate protein-protein interactions. Interacting with Dvl-2, Dapper1 functions to positively regulate Dvl-2-mediated developmental signaling pathways, specifically by preventing the degradation of β -catenin, thereby enhancing the transcriptional activation of select genes in the Wnt pathway. Dapper1 is downregulated in hepatocellular carcinoma, suggesting an additional role in tumor suppression. The gene encoding Dapper1 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α 1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

- Cheyette, B.N., Waxman, J.S., Miller, J.R., Takemaru, K., Sheldahl, L.C., Khlebtsova, N., Fox, E.P., Earnest, T. and Moon, R.T. 2002. Dapper, a Dishevelled-associated antagonist of β -catenin and JNK signaling, is required for notochord formation. *Dev. Cell* 2: 449-461.
- Katoh, M. and Katoh, M. 2003. Identification and characterization of human DAPPER1 and DAPPER2 genes in silico. *Int. J. Oncol.* 22: 907-913.
- Yau, T.O., Chan, C.Y., Chan, K.L., Lee, M.F., Wong, C.M., Fan, S.T. and Ng, I.O. 2005. HDPR1, a novel inhibitor of the WNT/ β -catenin signaling, is frequently downregulated in hepatocellular carcinoma: involvement of methylation-mediated gene silencing. *Oncogene* 24: 1607-1614.

CHROMOSOMAL LOCATION

Genetic locus: DACT1 (human) mapping to 14q23.1; Dact1 (mouse) mapping to 12 C3.

SOURCE

Dapper1 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Dapper1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74599 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Dapper1 (D-19) is recommended for detection of Dapper1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

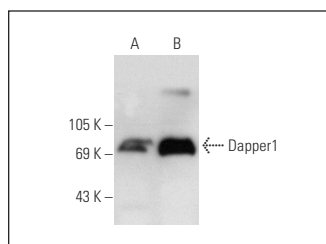
Dapper1 (D-19) is also recommended for detection of Dapper1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Dapper1 siRNA (h): sc-77095, Dapper1 siRNA (m): sc-77096, Dapper1 shRNA Plasmid (h): sc-77095-SH, Dapper1 shRNA Plasmid (m): sc-77096-SH, Dapper1 shRNA (h) Lentiviral Particles: sc-77095-V and Dapper1 shRNA (m) Lentiviral Particles: sc-77096-V.

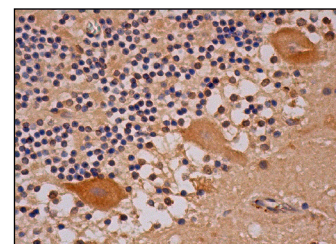
Molecular Weight of Dapper1: 90 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411 or SK-N-SH cell lysate: sc-2410.

DATA



Dapper1 (D-19): sc-74599. Western blot analysis of Dapper1 expression in U-87 MG (A) and SK-N-SH (B) whole cell lysates.



Dapper1 (D-19): sc-74599. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells and cytoplasmic and nuclear staining of cells in granular layer and cells in molecular layer.

PROTOCOLS

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


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Try **Dapper1 (D-4): sc-377030**, our highly recommended monoclonal alternative to Dapper1 (D-19).