SANTA CRUZ BIOTECHNOLOGY, INC.

Dvl-2 (N-19): sc-7399

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian homologs of the *Drosophila* dishevelled (Dsh) gene have been identified, including Dvl-1, Dvl-2 and Dvl-3. The mammalian dishevelled proteins contain three homologous domains, two of which are unrelated to any other known protein. The third region is homologous to the discs-large homology domain of *Drosophila* discs-large-1, a tumor suppressor protein. Like their *Drosophila* counterpart, the dishevelled proteins are thought to be involved in embryogenesis. Overexpression of Dvl-1 has been shown to inhibit the phosphorylation of Tau by GSK-3β. This finding may prove to be important in Alzheimer's studies, which have shown that Tau is hyperphosphorylated. In *Drosophila*, Dsh is a component of the frizzled signaling pathway. Both mammalian dishevelled and frizzled proteins are components of the Wnt signaling pathway.

REFERENCES

1. Sussman, D.J., et al. 1994. Isolation and characterization of a mouse homolog of the *Drosophila* segment polarity gene dishevelled. Dev. Biol. 166: 73-86.
2. Krasnow, R.E., et al. 1995. Dishevelled is a component of the frizzled signaling pathway in *Drosophila*. Development 121: 4095-4102.
3. Yang-Snyder, J., et al. 1996. A frizzled homolog functions in a vertebrate Wnt signaling pathway. Curr. Biol. 6: 1302-1306.
4. Pizzuti, A., et al. 1996. Human homologue sequences to the *Drosophila* dishevelled segment-polarity are deleted in the DiGeorge syndrome. Am. J. Hum. Genet. 58: 722-729.
5. Pizzuti, A., et al. 1996. cDNA characterization and chromosomal mapping of two human homologues of the *Drosophila* dishevelled polarity gene. Hum. Mol. Genet. 5: 953-958.

CHROMOSOMAL LOCATION

Genetic locus: DVL2 (human) mapping to 17p13.1; Dvl2 (mouse) mapping to 11 B3.

SOURCE

Dvl-2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Dvl-2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7399 P, (100 µg 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

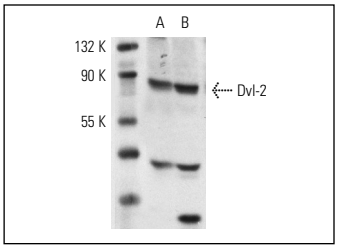
Dvl-2 (N-19) is recommended for detection of Dvl-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for Dvl-2 siRNA (h): sc-35230, Dvl-2 siRNA (m): sc-35231, Dvl-2 shRNA Plasmid (h): sc-35230-SH, Dvl-2 shRNA Plasmid (m): sc-35231-SH, Dvl-2 shRNA (h) Lentiviral Particles: sc-35230-V and Dvl-2 shRNA (m) Lentiviral Particles: sc-35231-V.

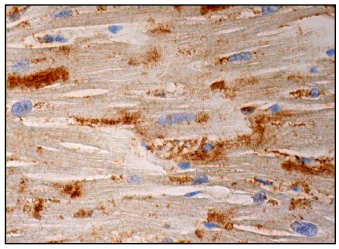
Molecular Weight of Dvl-2: 92 kDa.

Positive Controls: BT-20 cell lysate: sc-2223, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Dvl-2 (N-19): sc-7399. Western blot analysis of Dvl-2 expression in BT-20 (**A**) and MCF7 (**B**) whole cell lysates.



Dvl-2 (N-19): sc-7399. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Capelluto, D., et al. 2002. The DIX domain targets dishevelled to actin stress fibres and vesicular membranes. Nature 419: 653-762.
2. Endo, Y., et al. 2005. Wnt-3a-dependent cell motility involves RhoA activation and is specifically regulated by dishevelled-2. J. Biol. Chem. 280: 777-786.
3. Zhang, L., et al. 2006. Dapper1 antagonizes Wnt signaling by promoting dishevelled degradation. J. Biol. Chem. 281: 8607-8612.
4. Matsuyama, M., et al. 2009. Sfrp controls apicobasal polarity and oriented cell division in developing gut epithelium. PLoS Genet. 5: e1000427.
5. Matsuyama, M. and Shimono, A. 2012. The embryonic mouse gut tube as a model for analysis of epithelial polarity. Methods Mol. Biol. 839: 229-237.