

Dvl-3 (H-60): sc-28846

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-3 β . 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 signalling 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. Tsang, M., et al. 1996. Isolation and characterization of mouse dishevelled-3. *Dev. Dyn.* 207: 253-262.
6. 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.
7. Semenov, M.V., et al. 1997. Human dishevelled genes constitute a DHR-containing multigene family. *Genomics* 42: 302-310.
8. Wagner, U., et al. 1997. Overexpression of the mouse dishevelled-1 protein inhibits GSK-3 β -mediated phosphorylation of Tau in transfected mammalian cells. *FEBS Lett.* 411: 369-372.

CHROMOSOMAL LOCATION

Genetic locus: DVL3 (human) mapping to 3q27.1; Dvl3 (mouse) mapping to 16 A3.

SOURCE

Dvl-3 (H-60) is a rabbit polyclonal antibody raised against amino acids 606-665 mapping near the C-terminus of dishevelled-3 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.

APPLICATIONS

Dvl-3 (H-60) is recommended for detection of Dvl-3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Dvl-3 (H-60) is also recommended for detection of Dvl-3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Dvl-3 siRNA (h): sc-40491, Dvl-3 siRNA (m): sc-40492, Dvl-3 shRNA Plasmid (h): sc-40491-SH, Dvl-3 shRNA Plasmid (m): sc-40492-SH, Dvl-3 shRNA (h) Lentiviral Particles: sc-40491-V and Dvl-3 shRNA (m) Lentiviral Particles: sc-40492-V.

Molecular Weight of Dvl-3: 90 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, ZR-75-1 cell lysate: sc-2241 or BT-20 cell lysate: sc-2223.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Chen, M., et al. 2009. The anti-helminthic niclosamide inhibits Wnt/ Frizzled1 signaling. *Biochemistry* 48: 10267-10274.

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.



Try **Dvl-3 (G-10): sc-377289** or **Dvl-3 (4D3): sc-8027**, our highly recommended monoclonal alternatives to Dvl-3 (H-60). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Dvl-3 (G-10): sc-377289**.