

Dvl-2 (D-6): sc-390303

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.

CHROMOSOMAL LOCATION

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

SOURCE

Dvl-2 (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Dvl-2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dvl-2 (D-6) is available conjugated to agarose (sc-390303 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390303 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390303 PE), fluorescein (sc-390303 FITC), Alexa Fluor[®] 488 (sc-390303 AF488), Alexa Fluor[®] 546 (sc-390303 AF546), Alexa Fluor[®] 594 (sc-390303 AF594) or Alexa Fluor[®] 647 (sc-390303 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390303 AF680) or Alexa Fluor[®] 790 (sc-390303 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390303 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

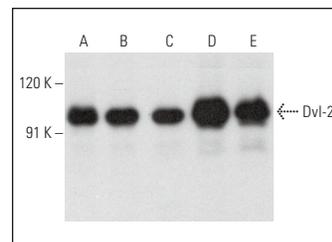
Dvl-2 (D-6) is recommended for detection of Dvl-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

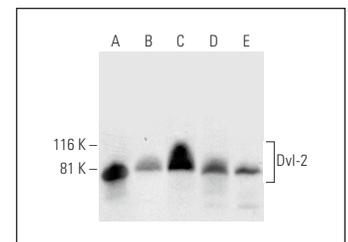
Molecular Weight of Dvl-2: 92 kDa.

Positive Controls: BT-20 cell lysate: sc-2223, MCF7 whole cell lysate: sc-2206 or 3T3-L1 cell lysate: sc-2243.

DATA



Dvl-2 (D-6): sc-390303. Western blot analysis of Dvl-2 expression in HeLa (A), THP-1 (B), EOC 20 (C), 3T3-L1 (D) and RAT2 (E) whole cell lysates.



Dvl-2 (D-6): sc-390303. Western blot analysis of Dvl-2 expression in BT-20 (A), MCF7 (B), MDA-MB-231 (C), MDA-MB-468 (D) and ZR-75-1 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vural, A. and Lanier, S.M. 2020. Intersection of two key signal integrators in the cell: activator of G-protein signaling 3 and dishevelled-2. *J. Cell Sci.* 133: jcs247908.
2. Rogan, M.R., et al. 2021. *Ehrlichia chaffeensis* TRP120 is a Wnt ligand mimetic that interacts with Wnt receptors and contains a novel repetitive short linear motif that activates Wnt signaling. *mSphere* 6: e00216-21.
3. Zhang, H., et al. 2021. ASPM promotes hepatocellular carcinoma progression by activating Wnt/ β -catenin signaling through antagonizing autophagy-mediated Dvl2 degradation. *FEBS Open Bio* 11: 2784-2799.
4. Hu, W., et al. 2021. Inhibition of Dishevelled-2 suppresses the biological behavior of pancreatic cancer by downregulating Wnt/ β -catenin signaling. *Oncol. Lett.* 22: 769.
5. Zhu, L., et al. 2022. CYP2E1 plays a suppressive role in hepatocellular carcinoma by regulating Wnt/Dvl2/ β -catenin signaling. *J. Transl. Med.* 20: 194.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.