

Dvl-3 (4D3): sc-8027



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-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 signaling pathway.

CHROMOSOMAL LOCATION

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

SOURCE

Dvl-3 (4D3) is a mouse monoclonal antibody raised against amino acids 607-704 of Dvl-3 of mouse 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-3 (4D3) is available conjugated to agarose (sc-8027 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8027 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8027 PE), fluorescein (sc-8027 FITC), Alexa Fluor[®] 488 (sc-8027 AF488), Alexa Fluor[®] 546 (sc-8027 AF546), Alexa Fluor[®] 594 (sc-8027 AF594) or Alexa Fluor[®] 647 (sc-8027 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-8027 AF680) or Alexa Fluor[®] 790 (sc-8027 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Dvl-3 (4D3) 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) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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: Dvl-3 (h): 293T Lysate: sc-114825, K-562 whole cell lysate: sc-2203 or RPE-J cell lysate: sc-24771.

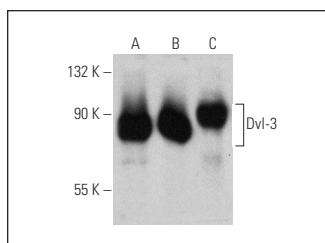
STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

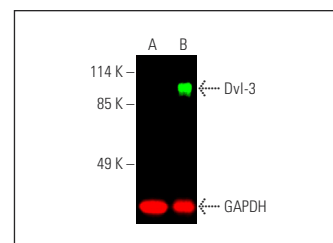
RESEARCH USE

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

DATA



Dvl-3 (4D3): sc-8027. Western blot analysis of Dvl-3 expression in MDA-MB-231 (A), K-562 (B) and RPE-J (C) whole cell lysates.



Simultaneous direct near-infrared western blot analysis of Dvl-3 expression, detected with Dvl-3 (4D3) Alexa Fluor[®] 680: sc-8027 AF680 and GAPDH expression, detected with GAPDH (G-9) Alexa Fluor[®] 790: sc-365062 AF790 in non-transfected: sc-117752 (A) and human Dvl-3 transfected: sc-114825 (B) 293T whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Qiang, Y.W., et al. 2003. Wnt signaling in B cell neoplasia. *Oncogene* 22: 1536-1545.
- Habas, R., et al. 2003. Coactivation of Rac and Rho by Wnt/Frizzled signaling is required for vertebrate gastrulation. *Genes Dev.* 17: 295-309.
- Hocevar, B.A., et al. 2003. Regulation of the Wnt signaling pathway by disabled-2 (Dab2). *EMBO J.* 22: 3084-3094.
- Uematsu, K., et al. 2003. Activation of the Wnt pathway in non small cell lung cancer: evidence of dishevelled overexpression. *Oncogene* 22: 7218-7221.
- Kríz, V., et al. 2014. β -arrestin promotes Wnt-induced low density lipoprotein receptor-related protein 6 (Lrp6) phosphorylation via increased membrane recruitment of Amer1 protein. *J. Biol. Chem.* 289: 1128-1141.
- Liu, C., et al. 2014. Null and hypomorph Prickle1 alleles in mice phenocopy human Robinow syndrome and disrupt signaling downstream of Wnt5a. *Biol. Open* 3: 861-870.
- Dijksterhuis, J.P., et al. 2015. Systematic mapping of WNT-FZD protein interactions reveals functional selectivity by distinct WNT-FZD pairs. *J. Biol. Chem.* 290: 6789-6798.
- Sun, J., et al. 2015. Remarkable impairment of Wnt/ β -catenin signaling in the brains of the mice infected with scrapie agents. *J. Neurochem.* 136: 731-740.

PROTOCOLS

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

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