

Dvl-1 (3F12): sc-8025

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: DVL1 (human) mapping to 1p36.33; Dvl1 (mouse) mapping to 4 E2.

SOURCE

Dvl-1 (3F12) is a mouse monoclonal antibody raised against amino acids 651-695 mapping at the C-terminus of dishevelled-1 (Dvl-1) of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dvl-1 (3F12) is available conjugated to agarose (sc-8025 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8025 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8025 PE), fluorescein (sc-8025 FITC), Alexa Fluor[®] 488 (sc-8025 AF488), Alexa Fluor[®] 546 (sc-8025 AF546), Alexa Fluor[®] 594 (sc-8025 AF594) or Alexa Fluor[®] 647 (sc-8025 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-8025 AF680) or Alexa Fluor[®] 790 (sc-8025 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Dvl-1 (3F12) is recommended for detection of Dvl-1 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).

Suitable for use as control antibody for Dvl-1 siRNA (h): sc-35228, Dvl-1 siRNA (m): sc-35229, Dvl-1 shRNA Plasmid (h): sc-35228-SH, Dvl-1 shRNA Plasmid (m): sc-35229-SH, Dvl-1 shRNA (h) Lentiviral Particles: sc-35228-V and Dvl-1 shRNA (m) Lentiviral Particles: sc-35229-V.

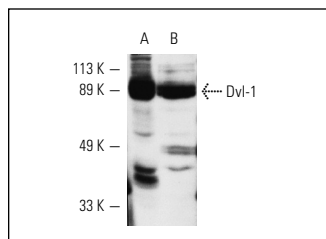
Molecular Weight of Dvl-1: 85 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

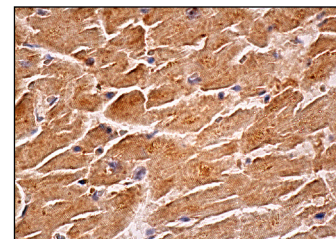
STORAGE

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

DATA



Dvl-1 (3F12): sc-8025. Western blot analysis of Dvl-1 expression in SK-N-SH (A) and KNRK (B) whole cell lysates.



Dvl-1 (3F12): sc-8025. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Qiang, Y.W., et al. 2003. Wnt signaling in B cell neoplasia. *Oncogene* 22: 1536-1545.
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- Uematsu, K., et al. 2003. Activation of the Wnt pathway in non small cell lung cancer: evidence of dishevelled overexpression. *Oncogene* 22: 7218-7221.
- Uematsu, K., et al. 2003. Wnt pathway activation in mesothelioma: evidence of dishevelled overexpression and transcriptional activity of β -catenin. *Cancer Res.* 63: 4547-4551.
- Nagahata, T., et al. 2003. Amplification, up-regulation and over-expression of Dvl-1, the human counterpart of the *Drosophila* dishevelled gene, in primary breast cancers. *Cancer Sci.* 94: 515-518.
- Kim, H.Y., et al. 2015. CXXC5 is a negative-feedback regulator of the Wnt/ β -catenin pathway involved in osteoblast differentiation. *Cell Death Differ.* 22: 912-920.
- Vestergaard, M.L., et al. 2016. Immunofluorescence microscopy and mRNA analysis of human embryonic stem cells (hESCs) including primary cilia associated signaling pathways. *Methods Mol. Biol.* 1307: 123-140.
- Dass, R.A., et al. 2016. Wnt5a signals through Dvl1 to repress ribosomal DNA transcription by RNA polymerase I. *PLoS Genet.* 12: e1006217.
- Fabijanovic, D., et al. 2016. The expression of SFRP1, SFRP3, Dvl1, and DVL2 proteins in testicular germ cell tumors. *APMIS* 124: 942-949.
- Chen, S., et al. 2017. MARK2/Par1b insufficiency attenuates Dvl gene transcription via histone deacetylation in lumbosacral spina bifida. *Mol. Neurobiol.* 54: 6304-6316.

RESEARCH USE

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