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DVL1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12326C

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	O14640
Other Accession	P54792, Q9WVB9, P51141, NP_004412.2
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB31716
Calculated MW	75187
Antigen Region	442-470

Additional Information

Gene ID	1855
Other Names	Segment polarity protein dishevelled homolog DVL-1, Dishevelled-1, DSH homolog 1, DVL1
Target/Specificity	This DVL1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 442-470 amino acids from the Central region of human DVL1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DVL1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DVL1
Function	Participates in Wnt signaling by binding to the cytoplasmic C-terminus of

	frizzled family members and transducing the Wnt signal to down-stream effectors. Plays a role both in canonical and non-canonical Wnt signaling. Plays a role in the signal transduction pathways mediated by multiple Wnt genes. Required for LEF1 activation upon WNT1 and WNT3A signaling. DVL1 and PAK1 form a ternary complex with MUSK which is important for MUSK-dependent regulation of AChR clustering during the formation of the neuromuscular junction (NMJ).
Cellular Location	Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasm, cytosol. Cytoplasmic vesicle Note=Localizes at the cell membrane upon interaction with frizzled family members.

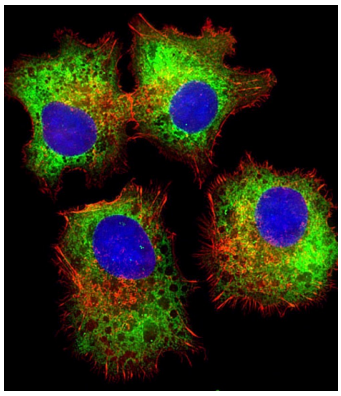
Background

DVL1, the human homolog of the Drosophila dishevelled gene (dsh) encodes a cytoplasmic phosphoprotein that regulates cell proliferation, acting as a transducer molecule for developmental processes, including segmentation and neuroblast specification. DVL1 is a candidate gene for neuroblastomatous transformation. The Schwartz-Jampel syndrome and Charcot-Marie-Tooth disease type 2A have been mapped to the same region as DVL1. The phenotypes of these diseases may be consistent with defects which might be expected from aberrant expression of a DVL gene during development.

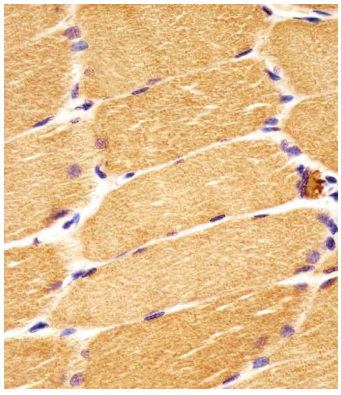
References

Metcalfe, C., et al. J. Cell. Sci. 123 (PT 9), 1588-1599 (2010) :
Hu, T., et al. J. Biol. Chem. 285(18):13561-13568(2010)
Varelas, X., et al. Dev. Cell 18(4):579-591(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :
Guo, J., et al. PLoS ONE 4 (11), E7982 (2009) :

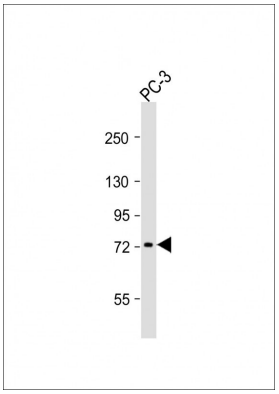
Images



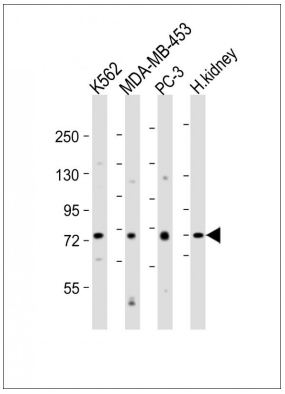
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (human liver hepatocellular carcinoma cell line) cells labeling DVL1 with AP12326c at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on HepG2 cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).The nuclear counter stain is DAPI (blue).



AP12326c staining DVL1 in human skeletal muscle sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Anti-DVL1 Antibody (Center)at 1:1000 dilution + PC-3 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 75 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-DVL1 Antibody (Center) at 1:2000 dilution Lane 1: K562 whole cell lysates Lane 2: MDA-MB-453 whole cell lysates Lane 3: PC-3 whole cell lysates Lane 4: human kidney lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 75 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Mutations in DVL1 cause an osteosclerotic form of Robinow syndrome.