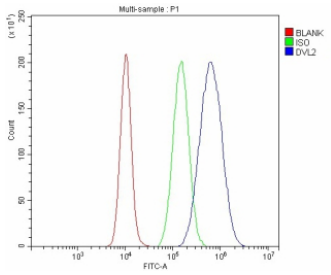
DVL2 Antibody / Disheveled segment polarity protein 2 (FY12738)

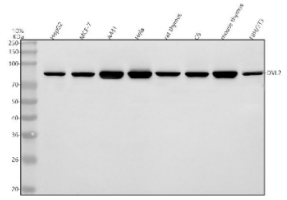
Catalog No.	Formulation	Size
FY12738	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O14641
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This DVL2 antibody is available for research use only.



Flow Cytometry analysis of cells using anti-DVL2 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-DVL2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of DVL2 using anti-DVL2 antibody. Lane 1: human HepG2 whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: rat thymus tissue lysates, Lane 6: rat C6 whole cell lysates, Lane 7: mouse thymus tissue lysates, Lane 8: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-DVL2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The expected molecular weight of DVL2 is ~79 kDa.

Description

DVL2 antibody detects Disheveled segment polarity protein 2, a cytoplasmic phosphoprotein that serves as a key scaffold in canonical and non-canonical Wnt signaling pathways. Encoded by the DVL2 gene on chromosome 17p13.1, this protein belongs to the Disheveled family, which transduces Wnt receptor activation into downstream signaling controlling cell polarity, differentiation, and proliferation. DVL2 contains DIX, PDZ, and DEP domains that mediate interactions with Frizzled receptors, Axin, and downstream kinases. These domains enable DVL2 to coordinate beta-catenin stabilization in the canonical pathway and planar cell polarity signaling in non-canonical branches.

Upon Wnt ligand binding, DVL2 is recruited to the membrane through Frizzled receptors, where it inhibits the beta-catenin destruction complex composed of Axin, APC, and GSK-3beta. This allows beta-catenin to accumulate and enter the nucleus, where it activates Wnt target genes that regulate growth and differentiation. In addition to its role in the canonical Wnt pathway, DVL2 participates in planar cell polarity signaling, influencing cytoskeletal organization and tissue morphogenesis. Dysregulation of DVL2 expression or phosphorylation disrupts normal Wnt signaling and has been implicated in developmental disorders and multiple cancers, including breast, colon, and lung carcinoma.

The DVL2 antibody is widely used in cell signaling, developmental biology, and oncology to monitor Wnt pathway activation and Disheveled protein dynamics. Western blot analysis identifies multiple DVL2 bands (90-100 kilodaltons) corresponding to phosphorylated isoforms, while immunofluorescence reveals punctate cytoplasmic and membrane-associated staining. This antibody supports investigation of Wnt-mediated transcriptional regulation and cytoskeletal rearrangement. Because DVL2 serves as a convergence point for canonical and non-canonical pathways, it is crucial for studying cell polarity, migration, and tissue patterning.

Beyond development, DVL2 influences cancer progression, stem cell renewal, and inflammation through its regulation of beta-catenin and JNK signaling. NSJ Bioreagents provides the DVL2 antibody validated for its applications, ensuring high specificity in research on Wnt signaling and tumor biology.

Application Notes

Optimal dilution of the DVL2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human DVL2 recombinant protein (Position: L89-Y576) was used as the immunogen for the DVL2 antibody.

Storage

After reconstitution, the DVL2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.