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Product Information

Anti-DVL2 (N-terminal)
produced in rabbit, affinity isolated antibody

Product Number **D1321**

Product Description

Anti-DVL2 (N-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human DVL2 (GeneID: 1856), conjugated to KLH. The corresponding sequence has high homology (73% identity) to mouse DVL2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-DVL2 (N-terminal) specifically recognizes human DVL2. The antibody may be used in various immunochemical techniques including immunoblotting (~95 kDa) and immunoprecipitation. Detection of the DVL2 band by immunoblotting is specifically inhibited by the DVL2 immunizing peptide.

The Wnt signaling pathways play an essential role in the regulation of cellular proliferation, differentiation, motility, and morphogenesis, and has been linked to some forms of cancer.[1,2] Dishevelled (Dsh, DVL) proteins are part of a multigene family that mediate wnt signaling pathways. In the canonical wnt pathway, DVL operates by upregulating β-catenin levels and stimulating TCF/LEF-1-dependent transcription.

In mammals, three genes encoding isoforms of dishevelled are present, DVL1, DVL2, and DVL3, that differentially mediate the wnt canonical signaling pathway.[3-5] The three DVL isoforms display high sequence homology and have conserved DIX, PDZ, and DEP domains required for GSK3β inactivation.

DVL2 (dishevelled-2, dsh homolog 2) is a phosphoprotein, ubiquitously expressed throughout most of embryogenesis, and is expressed in a wide range of human cell lines and adult tissues. DVL2 is essential for normal cardiac morphogenesis, somite segmentation, and neural tube closure in mice.[6] DVL2, like other members of the DVL family, functions upstream of GSK3β. Activation of the wnt signaling pathway is thought to cause DVL2 to inactivate GSK3β through complex formation with APC, β-catenin, and axin, releasing β-catenin from degradation.[4] In contrast, DVL1 regulates the activity of JNK and GSK3β in the wnt signaling pathway by a different signaling mechanism.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at –20 °C. For continuous use, the product may be stored at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.1-0.2 μg/mL is recommended using a HEK-293T cell lysate expressing human DVL2.

Immunoprecipitation: A working antibody amount of 1-2 μg is recommended using a HEK-293T cell lysate expressing human DVL2.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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4. Lee, Y. et al., *Cell Signal*., **20**, 443-452 (2008).
5. Li, L. et al, *J. Biol. Chem.,* **274**, 129-134 (1999).
6. Hamblet, N.S. et al., *Development*, **129**, 5827-5838 (2002).

VS,ER,TD,KAA,PHC,MAM 06/19-1