

Product Information

Anti-DKK1 (N-terminal)

produced in rabbit, affinity isolated antibody

Product Number **D3195**

Product Description

Anti-DKK1 (N-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human DKK1 (Gene ID: 22943), conjugated to KLH. The corresponding sequence is highly conserved (single amino acid substitution) in rat and mouse DKK1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-DKK1 (N-terminal) specifically recognizes human DKK1. The antibody may be used in various immunochemical techniques including immunoblotting (~29 kDa). Detection of the DKK1 band by immunoblotting is specifically inhibited by the DKK1 immunizing peptide.

The Wnt signaling pathways play an essential role in the regulation of cellular proliferation, differentiation, motility, morphogenesis and has been linked to some forms of cancer.^{1,2} The canonical wnt/ β -catenin signaling pathway is transduced through Frizzled family receptors and LRP5/LRP6 coreceptor to the β -catenin signaling cascade and it is tightly regulated by several secreted factors including members of the DKK, wnt-inhibitor factor (WIF), and secreted frizzled related protein (SFRP).² DKK1 (also known as Dickkopf-1) is a secreted inhibitor of the canonical wnt signaling pathway and modulates this pathway during embryonic development, including head induction, skeletal development and limb patterning.³ DKK1 is also implicated in several diseases including osteoporosis, arthritis and cancer and is a potential therapeutic target for the treatment of these diseases.⁴ The DKK family consists of four conserved members DKK1-4 that encode for secreted glycoproteins.⁵ DKK1, 2 and 4 have been shown to inhibit wnt signaling by interacting with and antagonizing LRP5 and LRP6.⁶ In addition to LRP5/6, DKK1 binds to Kremen1 and Kremen2 receptors. The ternary DKK/LRP/Krm complex is rapidly endocytosed, resulting in the removal of the LRP5/6 receptors from the cell membrane and in a prolonged inhibition of wnt signaling.⁷

Reagent

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

Antibody concentration: ~1.5 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

For continuous use, store 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 0.5–1.0 μ g/mL is recommended using a HEK-293T cell lysate expressing human DKK1.

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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3. Glinka, A. et al., *Nature*, **391**, 357-362 (1998).
4. Pinzone, J.J. et al., *Blood*, **113**, 517-525 (2009).
5. Krupnik, V.E. et al., *Gene*, **238**, 301-313 (1999).
6. Semenov, M.V. et al., *Curr. Biol*, **11**, 951-961 (2001).
7. Mao, B. et al., *Nature*, **417**, 664-667-325 (2002).

VS,ER,KAA,TD,PHC,MAM 04/19-1