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Product Information

Monoclonal Anti-DKK1, clone DKK-33
produced in mouse, purified immunoglobulin

Catalog Number **SAB4200300**

Product Description

Monoclonal Anti-DKK1 (mouse IgG2a isotype) is derived from the hybridoma DKK-33 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a peptide corresponding to a sequence at the N-terminus human DKK1 (GeneID: 22943), conjugated to KLH. The corresponding sequence is highly conserved (single amino acid substitution) in rat and mouse DKK1. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-DKK1 recognizes human and mouse DKK1. The antibody may be used in various immunochemical techniques including immunoblotting (expected:~ 29 kDa; apparent: doublet at 29 and 36 kDa). Staining of the DKK1 band in immunoblotting is specifically inhibited by the 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. 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 know as Dickkopf-1) is a secreted inhibitor of the canonical wnt signaling pathway that 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: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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 at –20°C in working aliquots. 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1.0-2.0 µg/mL using human A549 serum free condition medium.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration. Sensitive film is recommended.

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).

GG,RC,KAA,PHC 07/11-1