

Active Recombinant Mouse Dkk2 protein, His-tagged

Cat. No. Dkk2-194M Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Mouse Dkk2(Ser26-Ile259) fused with Leu35Pro substitution and His tag at C-terminal was expressed in E. coli.

Species Mouse

Source E.coli

ProteinLength 26-259 a.a.

Description

Dickkopf related protein 2 (Dkk-2) is a member of the Dickkopf family of secreted Wnt modulators. Dkk proteins contain a signal peptide and two conserved cysteine-rich domains that are separated by a linker region. The second cysteine-rich domain mediates Dkk-2 binding activities, and its interaction with LRP beta propellers has been mapped. The 226 aa, ~35 kDa mature mouse Dkk-2 shares 99%, 96%, 96%, 96% and 94% aa identity with rat, human, dog, horse and cow Dkk-2, respectively, and can activate the canonical Wnt signaling pathway in Xenopus embryos. Dkk proteins modify Wnt engagement of a receptor complex composed of a Frizzled protein and a low-density lipoprotein receptor-related protein, either LRP5 or LRP6. When LRP6 is over-expressed, direct high-affinity binding of Dkk-2 to LRP can enhance canonical Wnt signaling. However, when Dkk-2 and LRP6 form a ternary complex with Kremen2, Wnt signaling is inhibited due to internalization of Dkk-2/LRP6/Krm2 complexes. Thus, depending on the cellular context, Dkk-2 can either activate or inhibit canonical Wnt signaling. In contrast, binding of Dkk-1 or Dkk-4 to LRP is consistently antagonistic. Dkk proteins are expressed in mesenchymal tissues

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and control epithelial transformations. Dkk-2 expression has been studied most in bone and eye, although it is expressed as early as periimplantation in mice. Mouse Dkk-1 or Dkk-2 deficiencies have opposite effects on bone homeostasis, despite down-regulating Wnt antagonism in both cases. Dkk-2 expression is induced by Wnts in bone, and is thought to enhance bone density by promoting terminal differentiation of osteoblasts and mineral deposition. In contrast, Dkk-1 negatively regulates late osteoblast proliferation, which limits bone density. Dkk-2-deficient mice are blind, exhibiting faulty differentiation of corneal epithelium and ectopic blood vessels in the periocular mesenchyme.

Predicted N Terminal Ser26

Form Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.

Bio-activity Measured in a competitive binding assay. When Recombinant Mouse Kremen-1 is immobilized at 4 µg/mL (100 µL/well), Recombinant Mouse Dkk-2 inhibits 50% binding of biotinylated Recombinant Human Dkk-1 (200 ng/mL) at the concentration range of 0.25-1.5 µg/mL.

Molecular Mass Predicted Molecular Mass: 27 kDa
SDS-PAGE: 29-35 kDa, reducing conditions

Endotoxin <0.1 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
12 months from date of receipt, -20 to -70 centigrade as supplied.
1 month, 2 to 8 centigrade under sterile conditions after reconstitution.

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3 months, -20 to -70 centigrade under sterile conditions after reconstitution.

Reconstitution

Reconstitute at 100 µg/mL in PBS containing at least 0.1% human or bovine serum albumin.

GENE INFORMATION**Gene Name**

DKK2 dickkopf 2 homolog (*Xenopus laevis*) [*Homo sapiens*]

Official Symbol

Dkk2

Synonyms

DKK2; dickkopf 2 homolog (*Xenopus laevis*); dickkopf (*Xenopus laevis*) homolog 2; dickkopf-related protein 2; hDkk-2; dickkopf-2; dickkopf homolog 2; dickkopf related protein-2; DKK-2;

Gene ID

27123

mRNA Refseq

NM_014421

Protein Refseq

NP_055236

MIM


605415

UniProt ID

Q9UBU2

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