Active Recombinant Mouse Dkk2 protein, His-tagged

Cat. No. Dkk2-193M **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 Insect cells.
Species	Mouse
Source	Insect Cells
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 homolog 2 (Xenopus laevis) [Mus musculus]
Official Symbol	Dkk2
Synonyms	DKK2; dickkopf homolog 2 (Xenopus laevis); dickkopf-related protein 2; dkk-2; mDkk-2; dickkopf 2; dickkopf-2; dickkopf homolog 1;
Gene ID	56811
mRNA Refseq	NM_020265
Protein Refseq	NP_064661

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