

Active Recombinant Human DKK1 Protein, Biotinylated

Cat. No. DKK1-164H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Human DKK1(Thr32-His266) was expressed in Insect cells, Biotinylated.

Species Human

Source Insect Cells

ProteinLength Thr32-His266

Description

Dickkopf related protein 1 (Dkk-1) is the founding member of the Dickkopf family of proteins that includes Dkk-1, -2, -3, -4, and a related protein, Soggy. Dkk proteins are secreted proteins that contain two conserved cysteine-rich domains (CRDs) separated by a linker region. Each domain contains ten cysteine residues. Mature human Dkk-1 is a 40 kDa glycosylated protein that shares 83% amino acid sequence identity with mouse and rat Dkk-1. Dkk-1 is a well-characterized antagonist of Wnt/beta-Catenin signaling. This pathway is activated by Wnt engagement of a receptor complex composed of the Frizzled proteins and one of two low-density lipoprotein receptor-related proteins, LRP-5 or LRP-6. Crystallographic studies have shown that Dkk-1 interacts with LRP-6 as a bipartite inhibitor, with both CRDs binding the extracellular domain of LRP-6 simultaneously. Dkk-1/LRP-6/Krm2 complex internalization has been shown to down-regulate Wnt signaling. Dkk-1 is expressed throughout development and antagonizes Wnt-7a during limb development. Other sites of expression include developing neurons, hair follicles, and the retina. The balance between Wnt signaling and Dkk-1 inhibition is critical for bone formation and

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homeostasis. Insufficient or excess Dkk-1 activity in bone results in increased or decreased bone density, respectively. In adults, Dkk-1 is expressed in osteoblasts and osteocytes, and neurons. Cerebral ischemia induces Dkk-1 expression, which contributes to neuronal cell death. Dkk-1 also likely has a complex role in cancer, as it has been shown to act as a tumor suppressor and also to promote metastasis.

Predicted N Terminal Thr32

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

Bio-activity Measured by its ability to inhibit Wnt-3a-induced alkaline phosphatase production by MC3T3-E1 mouse preosteoblast cells. The ED50 for this effect is 0.2-1 µg/ml in the presence of 10 ng/ml of Recombinant Mouse Wnt-3a.

Molecular Mass Predicted Molecular Mass: 26 kDa (unlabeled);
SDS-PAGE: 33-38 kDa, reducing conditions.

Endotoxin <1.0 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE with silver staining

Notes Structure / Form: Monomer, biotinylated via sugars

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.
3 months, -20 to -70 centigrade under sterile

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

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Conjugation Biotin

GENE INFORMATION

Gene Name DKK1 dickkopf 1 homolog (Xenopus laevis) [Homo sapiens]

Official Symbol DKK1

Synonyms DKK1; dickkopf 1 homolog (Xenopus laevis); dickkopf (Xenopus laevis) homolog 1; dickkopf-related protein 1; DKK 1; SK; hDkk-1; dickkopf-1 like; dickkopf related protein-1; DKK-1;

Gene ID 22943

mRNA Refseq NM_012242

Protein Refseq NP_036374

MIM 605189

UniProt ID O94907

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