



Recombinant Human DKK-2

20151105BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	200-014
Size:	20 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene-ID (NIBC):	27123
Synonyms:	Dickkopf-related protein-2, Dickkopf-2, DKK2

The dickkopf (DKK)-related protein family is comprised of four central members, DKK-1 - 4, along with the distantly-related DKK family member DKK-11 (Soggy), which is thought to be a descendent of an ancestral DKK-3 precursor due to its unique sequence homology to DKK-3 and no other DKK family member. DKK family members, with the exception of the divergent Soggy, share two conserved cysteine-rich domains and show very little sequence similarity outside of these domains. Playing an important regulatory role in vertebrate development through localized inhibition of Wnt-regulated processes, including anterior-posterior axial patterning, limb development, somitogenesis, and eye formation, DKKs have also been implicated post-developmentally in bone formation, bone disease, cancer, and neurodegenerative diseases. DKK proteins typically play an important regulatory role in the Wnt/β-catenin signaling pathway by forming inhibitory complexes with LDL receptor-related proteins 5 and 6 (LRP5 and LRP6), which are essential components of the Wnt/β-catenin signaling system. LRP5 and LRP6 are single-pass transmembrane proteins that appear to act as co-receptors for Wnt ligands involved in the Wnt/β-catenin signaling cascade. DKK-2 has been shown to both inhibit and enhance canonical Wnt signaling; enhancing Wnt signaling through direct high-affinity binding of DKK-2 to LRP6 during LRP6 overexpression, while inhibiting Wnt signaling and promoting LRP6 internalization through the formation of a ternary complex between DKK-2, LRP6, and Kremen-2. Recombinant Human DKK-2 fused to a C terminal His-tag derived from E. coli has a apparent molecular weight of 27.0 kDa (SDS-PAGE) and contains 237 amino acid residues.

References

1. Krupnik VE et al, Gene 238:301 (1999)
2. Niehrs C, Oncogene 25:7469 (2006)

Sequence

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MKLNSIKSSL GGETPGQAAN RSAGMYQGLA FGGSKKGNL
GQAYPCSSDK ECEVGRYCHS PHQSSACMV CRRKKRCHR
DGMCCPSTRC NNGICIPVTE SILTPHIPAL DGTRHRDRNH
GHYSNHDLGW QNLGRPHTKM SHIKGHEGDP CLRSSDCIEG
FCCARHFWTK ICKPVLHQGE VCTKQRKKS HGLEIFQRCD
CAKGLSCKVW KDATYSSKAR LHVCQKITRL EHHHHHHH
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Database References

Protein RefSeq:	NP_055236.1
Uniprot ID:	Q9UBU2
mRNA RefSeq:	NM_014421.2

Product Specifications

Expressed in	E.coli
Purity	> 98% by SDS-PAGE & Coomassie stain
Buffer	0.25X PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	237
MW:	27 kDa
Result by N-terminal sequencing	MKLNS

Stability: The lyophilized human DKK-2, though stable at room temperature, is best stored desiccated below 0°C. Reconstituted human DKK-2 should be stored in working aliquots at -20°C.

Reconstitution: Human DKK-2 should be reconstituted in PBS to a concentration of 0.1 mg/ml. This solution can be diluted in water or other buffer solutions or stored at -20°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological activity: Not tested so far.

Applications:

1. Positive control for Western blot analysis



Recombinant Human DKK-2

Handling/Application

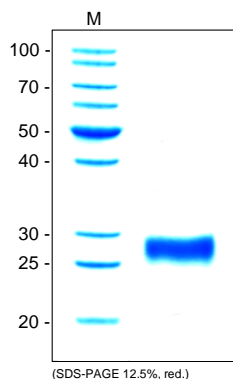


Fig. 1: SDS-PAGE analysis of recombinant human DKK-2. Sample was loaded in 12.5% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.