DKK-1 Protein, Human (235a.a, HEK293, Tag free)

Cat. No.:	HY-P7155B
Synonyms:	rHuDKK-1; hDkk-1; SK
Species:	Human
Source:	HEK293
Accession:	O94907 (T32-H266)
Gene ID:	22943
Molecular Weight:	Approximately 38.31 kDa

PROPERTIES

AA Sequence	T L N S V L N S N A I K N L P P P L G G A A G H P G S A V S A A P G I L Y P G G N K Y Q T I D N Y Q P Y P C A E D E E C G T D E Y C A S P T R G G D A G V Q I C L A C R K R R K R C M R H A M C C P G N Y C K N G I C V S S D Q N H F R G E I E E T I T E S F G N D H S T L D G Y S R R T T L S S K M Y H T K G Q E G S V C L R S S D C A S G L C C A R H F W S K I C K P V L K E G Q V C T K H R R K G S H G L E I F Q R C Y C G E G L S C R I Q K D H H Q A S N S S R L H T C
Biological Activity	Measured by its ability to inhibit Wnt3a-induced alkaline phosphatase production by C3H10T1/2 cells. The ED_{50} this effect is 61.12 ng/mL in the presence of 10 ng/mL of Human Wnt3a, corresponding to a specific activity is 1.636×10^4 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	DKK1 protein functions as a potent antagonist of canonical Wnt signaling through multiple mechanisms. It inhibits the interaction between LRP5/6 and Wnt and forms a ternary complex with the transmembrane protein KREMEN, facilitating the internalization of LRP5/6. Notably, DKK1 not only antagonizes the pro-apoptotic function of KREMEN1 in a Wnt-independent

manner but also exhibits anti-apoptotic activity. The protein is implicated in limb development, where it modulates Wnt signaling to ensure normal limb patterning. Through its C-terminal Cys-rich domain, DKK1 interacts with LRP5 and LRP6, specifically engaging with beta-propeller regions 3 and 4 of LRP5. This interaction is further influenced by MESD and/or KREMEN, collectively leading to the attenuation of Wnt-mediated signaling. Additionally, DKK1 forms a ternary complex with LRP6 and KREM1, highlighting its multifaceted role in regulating crucial cellular processes and interactions with key proteins involved in Wnt signaling.

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