

DKK1 Protein, Human (HEK293, His)

Cat. No.:	HY-P73513
Synonyms:	Dickkopf-related protein 1; Dickkopf-1; Dkk-1; SK; DKK1
Species:	Human
Source:	HEK293
Accession:	O94907 (T32-H266)
Gene ID:	22943
Molecular Weight:	Approximately 42.9 kDa

PROPERTIES

Biological Activity	Measured by its ability to inhibit Wnt3a-induced alkaline phosphatase production by C3H10T1/2 cells and the ED ₅₀ is approximately 0.1-0.4 µg/mL in the presence of 10 ng/mL of mouse Wnt3a.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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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Caution: Product has not been fully validated for medical applications. For research use only.

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