Cytokines

Human Recombinant DKK-1

Dickkopf-related protein 1

Catalog #	78013	10 µg
	78013.1	50 µg

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Product Description

Dickkopf-related protein 1 (DKK-1) is a member of the Dickkopf family and is a secreted protein that inhibits the canonical WNT pathway by competitive binding to low-density lipoprotein receptors (LRP)-5 and 6 with high affinity, thereby decreasing β-catenin protein stability (Niehrs). DKK-1 regulates embryonic development and contains two conserved cysteine-rich domains separated by a linker region and an N-terminal signal peptide (Krupnik et al.; Lieven et al.). A family of human DKK-related genes composed of DKK-1, DKK-2, DKK-3, and DKK-4 have been characterized together with a unique DKK-3 related protein termed Soggy (Krupnik et al.). DKK-1 has been shown to support the generation of myeloid-derived suppressor cells (MDSCs) and thus is a negative regulator of antitumor immune responses (D'Amico et al.). DKK-1 from thrombocytes is an important regulator of leukocyte infiltration and induces Th2 cell polarization and potentiates Th2 cell cytokine expression (Chae et al.). DKK-1 has also been shown to drive cardiac and retinal differentiation from induced pluripotent stem cells (iPSCs; Lian et al.).

Product Information

Alternative Names:	Dickkopf-1, hDkk-1, SK, Dickkopf WNT signaling pathway inhibitor 1
Accession Number:	O94907
Amino Acid Sequence:	TLNSVLNSNA IKNLPPPLGG AAGHPGSAVS AAPGILYPGG NKYQTIDNYQ PYPCAEDEEC GTDEYCASPT RGGDAGVQIC LACRKRRKRC MRHAMCCPGN YCKNGICVSS DQNHFRGEIE ETITESFGND HSTLDGYSRR TTLSSKMYHT KGQEGSVCLR SSDCASGLCC ARHFWSKICK PVLKEGQVCT KHRRKGSHGL EIFQRCYCGE GLSCRIQKDH HQASNSSRLH TCQRH
Predicted Molecular Mass:	17 - 22 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

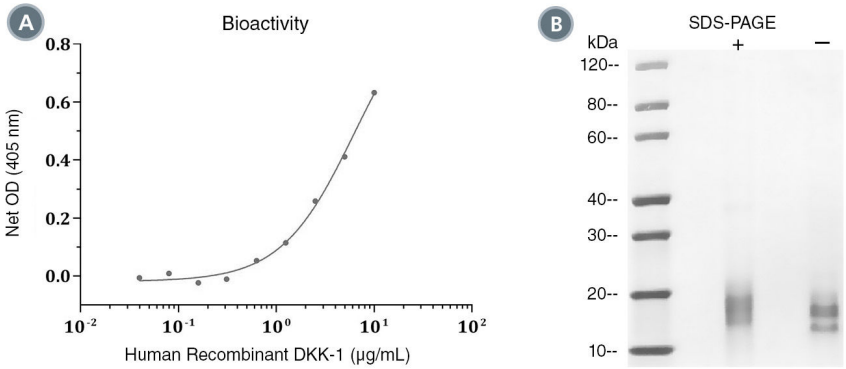
Specifications

Activity:	The specific activity is ≥ 166 units/mg (EC50 ≤ 6 µg/mL) as determined by the alkaline phosphatase activity induced in CCL-226 cells.
Purity:	≥ 95 %
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant DKK-1 was tested by its ability to promote alkaline phosphatase production of CCL-226 cells. Alkaline phosphatase production was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which alkaline phosphatase production is at 50% of maximum. The EC50 in the example above is less than 6 µg/mL.
(B) 2 µg of Human Recombinant DKK-1 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant DKK-1 has a predicted molecular mass of 17 - 22 kDa.

Related Products

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References

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