

Recombinant Human Dkk-1 Protein

Catalog No.: RP01343

Sequence Information

Species **Gene ID**
Human 22943

Swiss Prot **Tags**
O94907 C-His

Synonyms
DKK1, DKK-1, SK

Product Information

Source **Purification**
HEK293 cells ≥ 95 % as
determined by
SDS-PAGE.

Calculated MW **Observed MW**
26.61 kDa 40-45 kDa

Endotoxin
< 0.1 EU/μg of the protein by LAL
method.

Formulation
Lyophilized from a 0.22 μm filtered
solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening.
Reconstitute to a concentration of
0.1-0.5 mg/mL in sterile distilled
water. Avoid vortex or vigorously
pipetting the protein. For long
term storage, it is recommended
to add a carrier protein or stabilizer
(e.g. 0.1% BSA, 5% HSA, 10% FBS
or 5% Trehalose), and aliquot the
reconstituted protein solution to
minimize free-thaw cycles.

Background

Members of the dickkopf-related protein family (DKK-1, -2, -3, and -4) are secreted proteins with two cysteine-rich domains separated by a linker region. And DKK1 takes part in embryonic development through its inhibition of the WNT signaling pathway, binds to LRP6 with high affinity and prevents the Frizzled-Wnt-LRP6 complex formation in response to Wnts. DKK1 promotes LRP6 internalization and degradation when it forms a ternary complex with the cell surface receptor Kremen. DKK1 not only functions as a head inducer during development, but also regulates joint remodeling and bone formation, which suggests roles for DKK1 in the pathogenesis of rheumatoid arthritis and multiple myeloma. More recently research reported, DKK1 impacts eye development from a defined developmental time point on, and is critical for lens separation from the surface ectoderm via β-catenin mediated Pdgfra and E-cadherin expression.

Basic Information

Description

Recombinant Human Dkk-1 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Thr32-His266) of human DKK-1 (Accession #NP_036374.1) fused with 6×His tag at the C-terminus.

Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Human DKK-1 at 5 μg/mL (100 μL/well) can bind Human LRP-5 with a linear range of 0.027-0.559 μg/mL.
2. Measured by its ability to inhibit Wnt3a-induced alkaline phosphatase production by C3H10T1/2 cells. The EC₅₀ for this effect is approximately 95 ng/mL in the presence of 2 μg/mL of Recombinant Human Wnt3a.
3. Measured by its ability to inhibit Wnt induced Topflash reporter activity in HEK293T human embryonic kidney cells. The ED₅₀ for this effect is 22.45-89.8 ng/mL in the presence of 10 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of 1.11×10⁴~4.45×10⁴ units/mg.

Shipping

Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage

Store at -20°C

Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

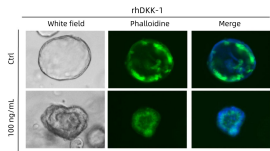
Contact

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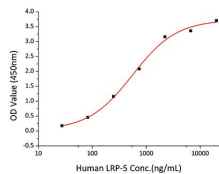
✉ | cn.market@abclonal.com.cn

🌐 | www.abclonal.com.cn

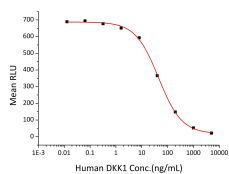
Validation Data



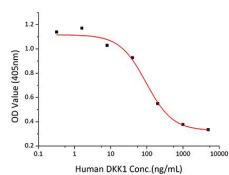
Human kidney organoids were cultured with EGF(Cat. RP03287), FGF2(Cat. RP01042), FGF7(Cat. RP01717), FGF9(Cat. RP01710), FGF10(Cat. RP01140), IGF-(Cat. RP00996), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ). And further, DKK-1(RP01343) was used to induce the establishment of cell polarity.



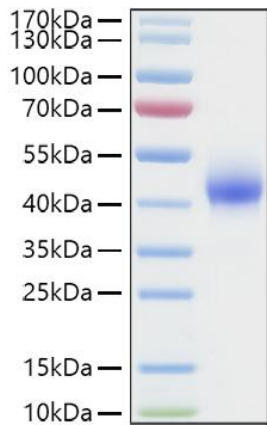
Immobilized Human DKK-1 at 5 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) can bind Human LRP-5 with a linear range of 0.027-0.559 $\mu\text{g/mL}$.



Measured by its ability to inhibit Wnt induced Topflash reporter activity in HEK293T human embryonic kidney cells. The ED_{50} for this effect is 22.45-89.8 ng/mL in the presence of 10 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of $1.11 \times 10^4 \sim 4.45 \times 10^4$ units/mg.



Recombinant Human Dkk-1 inhibit Wnt3a-induced alkaline phosphatase production by C3H10T1/2 cells. The EC_{50} for this effect is approximately 95 ng/ml in the presence of 2 $\mu\text{g/mL}$ of Recombinant Human Wnt3a.



Recombinant Human Dkk-1 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.