

**Synonym**

DKK1,SK

**Source**

Human Dkk-1 Protein, His Tag, premium grade(DK1-H5221) is expressed from human 293 cells (HEK293). It contains AA Thr 32 - His 266 (Accession # [NP\\_036374.1](#)).

Predicted N-terminus: Thr 32

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

**Molecular Characterization**

Dkk-1(Thr 32 - His 266) NP_036374.1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 26.6 kDa. The protein migrates as 35-45 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 0.1 EU per µg by the LAL method.

**Sterility**

The sterility testing was performed by membrane filtration method.

**Purity**

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

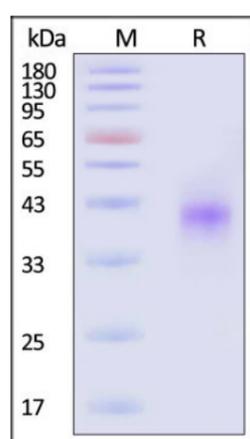
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

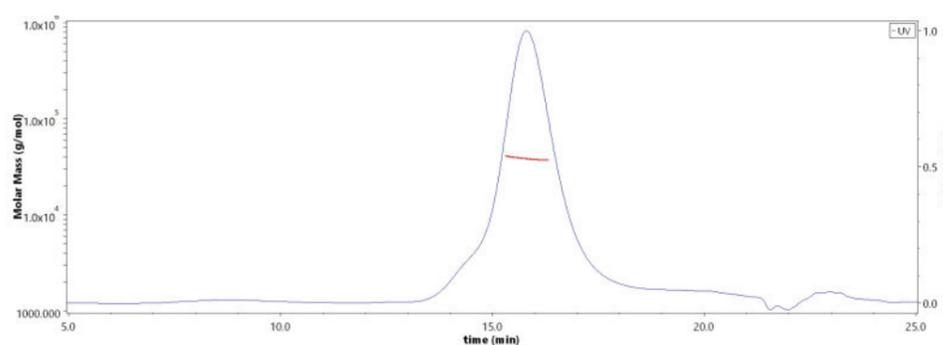
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

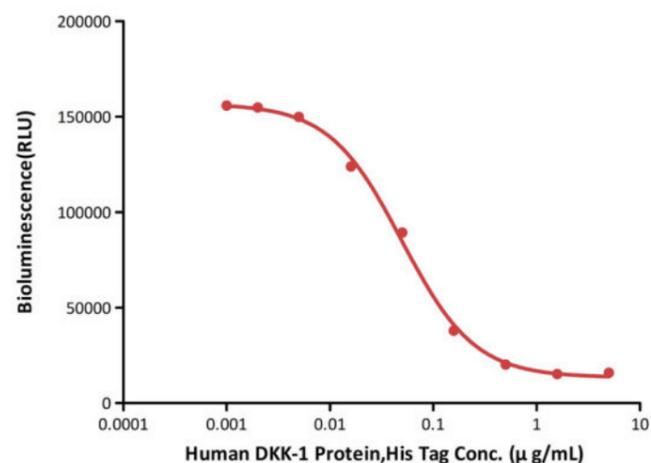
Human Dkk-1 Protein, His Tag, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity-Bioactivity CELL BASE****SEC-MALS**

The purity of Human Dkk-1 Protein, His Tag, premium grade (Cat. No. DK1-H5221) is more than 90% and the molecular weight of this protein is around 30-46 kDa verified by SEC-MALS.

[Report](#)

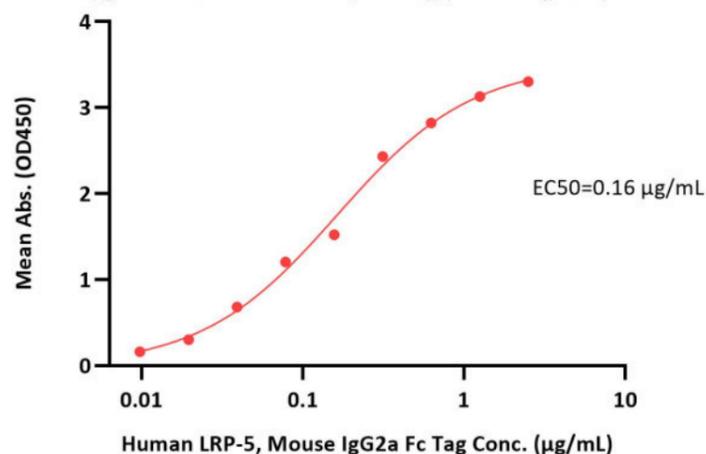
ActiveMax Human Dkk-1 Protein, His Tag inhibit Wnt induced TCF reporter activity in HEK293 cells



Human Dkk-1 Protein, His Tag, premium grade (Cat.No. DK1-H5221) inhibits Wnt induced TCF reporter activity in HEK293 cells. Human Dkk-1 inhibits a constant dose of 0.03 µg/mL of Wnt surrogate. The EC50 for this effect is 0.050 µg/mL.

### Bioactivity-ELISA

Human Dkk-1 Protein, His Tag, premium grade ELISA  
0.5 µg of Human Dkk-1 Protein, His Tag, premium grade per well



Immobilized Human Dkk-1 Protein, His Tag, premium grade (Cat. No. DK1-H5221) at 5 µg/mL (100 µL/well) can bind Human LRP-5, Mouse IgG2a Fc Tag (Cat. No. LR5-H5254) with a linear range of 0.01-0.156 µg/mL (QC tested).

### 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  $\beta$ -catenin mediated *Pdgfra* and E-cadherin expression.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.