

Synonym

DKK1,SK

Source

Human Dkk-1, His Tag (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

Molecular Characterization

Dkk-1(Thr 32 - His 266)
NP_036374.1 Poly-his

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 under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

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.

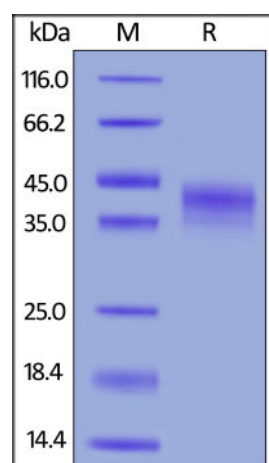
Storage

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

Please avoid repeated freeze-thaw cycles.

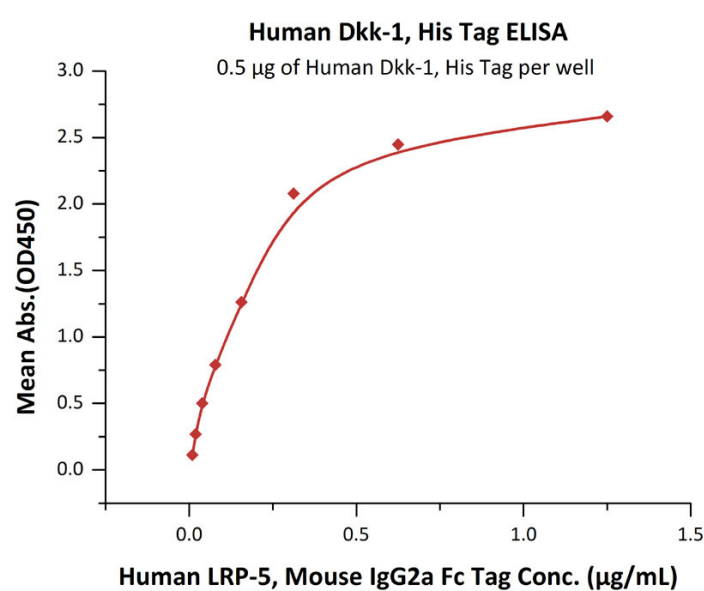
This product is stable after storage at:

- -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, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized Human Dkk-1, His Tag (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 β -catenin mediated *Pdgfra* and E-cadherin expression.

References

- (1) [Li Y, Lu W, et al., 2010, PLoS One, 5 \(6\): e11014.](#)
- (2) [Yamaguchi Y, Morita A, et al., 2009, J Invest Dermatol Symp Proc. Aug;14 \(1\):73-5.](#)
- (3) [Lieven O, R  ther U., 2011, Dev Biol., 355 \(1\): 124-37.](#)

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.