

# Product Sheet

## DKK-1, human recombinant

**Catalog #** DKK-025; DKK-100

**Description** DKK-1, Dickkopf-related protein-1, is a member of the DKK protein family which includes DKK-1 through DDK-4. DKK was originally identified as a head-forming molecule in *Xenopus*. Mechanistic studies showed that DKK-1 inhibits the Wnt / $\beta$ -catenin signaling pathway by forming inhibitory complexes with co-receptor LRP5/6. Inhibition of Wnt/ $\beta$ -catenin signaling is essential for posterior patterning and anterior development in vertebrates, supported by the discovery that DKK-1 knock-out mice lack head formation.

StemRD expressed recombinant human DKK-1 in human 293 cells as a 37-40 kDa glycoprotein containing 235 amino-acid residues. It is purified by a series of chromatography including HPLC.

**Formulation** Lyophilized in sterile filtered solution of PBS.

**Reconstitution** Before reconstitution, a brief spin is recommend to drive down any material dislodged from the bottom of the tube. The lyophilized protein should be reconstituted in sterile H<sub>2</sub>O to a desired concentration.

**Stability** The lyophilized protein is stable for at least one year if stored at -80 degree C. Reconstituted protein is stable for at least four weeks at 4 degree C, but should be stored in aliquots at -80 degree C for longer term. Avoid repeated freeze and thaw.

**Purity** Greater than 90% as determined by SDS-PAGE analysis

**Biological Activity** The activity was determined by using a TCF reporter gene assay in cultured human cells. The IC<sub>50</sub> ranges from 100 - 500 ng/ml in the inhibition of 100 ng/mL WNT-3a activity. Activity in other assays should be determined by each individual setting.

**Country of Origin** USA

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