

## DKK1 Protein, Mouse, Recombinant

### General Information

Synonyms:	DKK-1; Dickkopf-1
Protein Construction:	Ser30-His272
Species:	Mouse
Expression Host:	CHO Cells
Accession:	O54908
Molecular Weight:	19~20 kDa (Reducing conditions)

### QC Testing

Biological Activity:	ED 50 < 6.0 µg/ml, measured in stimulation of alkaline phosphatase activity using CCL-226 cells.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 0.2 EU/µg of protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 µm filtered solution in PBS.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Dickkopf related protein 1 (DKK-1) is a chemokine that belongs to the DKK protein family, which also includes DKK-2, DKK-3 and DKK-4. DKK-1 was originally identified as a Xenopus head forming molecule that behaves as an antagonist for Wnt signaling. It is one of the most up-regulated genes during androgen-potentiated balding, with DKK-1 messenger RNA up-regulated a few hours after DHT treatment of hair follicles at the dermal papilla in vitro. Neutralizing bodies against DKK-1 reverses DHT effects on outer root sheath keratinocytes. DKK-1 expression is attenuated by L-threonate, a metabolite of ascorbate in vitro. DKK-1 promotes LRP6 internalization and degradation as it forms a ternary complex with the cell surface receptor Kremen. DKK-1 not only functions in head

formation during development, but also regulates joint remodeling and bone formation indicating its potential role in the pathogenesis of rheumatoid arthritis and multiple myeloma.

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