Data Sheet (Cat.No.TMPY-05797)

TargetMol

DKK1 Protein, Rat, Recombinant (His)

General Information

Synonyms:	dickkopf WNT signaling pathway inhibitor 1
Protein Construction:	A DNA sequence encoding the rat DKK1 (NP_001099820.1) (Met1-His270) was expressed with a polyhistide tag at the C-terminus. Predicted N terminal: Thr32
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	A6I0Z0
Molecular Weight:	27.44 kDa (predicted)

QC Testing

Biological Activity:	Measured by its ability to inhibit Wnt3a induced alkaline phosphatase production by C3H10 T1/2 cells. The ED50 for this effect is typically 0.05-0.3 μg/mL.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

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 (DKK) family proteins, consisting of DKK-1, DKK-2, DKK-3 and DKK-4, function as secreted Wnt antagonists by inhibiting Wnt coreceptors LRP5/6. DKK-1, DKK-2, and DKK-4 also bind cell surface Kremen-1 or Kremen-2 and promote the internalization of LRP5/6. Dickkopf related protein 1 (DKK-1) was initially identified as an inducer of head formation in Xenopus embryos. DKK-1 protein modulates Wnt signaling pathway during embryonic development. Increased levels of DKK-1 are found in the majority of lung cancers, esophageal

squamous cell carcinomas, and hormone-resistant breast cancers, while DKK-1 expression is decreased in malignant melanoma and colorectal cancers.

Reference

Horwitz EM. (2004) Dkk-1-mediated expansion of adult stem cells. Trends Biotechnol. 22(8): 386-8.
Jiang T, et al. (2009) Clinical significance of serum DKK-1 in patients with gynecological cancer. Int J Gynecol Cancer. 19(7): 1177-81.