

DKKL1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	SGY;dickkopf-like 1;CT34;SGY1;SGY-1
Protein Construction:	A DNA sequence encoding the secreted form of human DKKL1 (Q9UK85) (Ala 31-Leu 242) was expressed with the fused Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9UK85
Molecular Weight:	52.4 kDa (predicted); 60 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 70 % 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-like 1 (DKKL1) or soggy 1, is a glycoprotein unique to mammals that is expressed primarily in developing spermatocytes and localized in the acrosome of mature sperm. It is also expressed in the trophectoderm / placental lineage. This glycoprotein is secreted by postmeiotic male germ cells. DKKL1 is a member of the Dickkopf (DKK) family, a group of proteins that are characterized as secreted antagonists of Wnt signal transduction

proteins. In mammals, embryos lacking DKKL1 protein developed into viable, fertile adults. DKKL1, either directly or indirectly, facilitates the ability of sperm to penetrate the zona pellucid. DKKL1 is related to the sperm apoptotic procession. Molecular analyses identified the Fas death ligand (FasL) as a target for DkkL1 pro-apoptotic activity in adult mice. DKKL1 is considered as a negative regulator of adult testis homeostasis and identifies a novel, DKKL1 / FasL- dependent, regulation that specifically controls the number of postpubertal spermatocytes.

Reference

Niehrs C. (2006) Function and biological roles of the Dickkopf family of Wnt modulators. *Oncogene*. 25 (57): 7469-81.

Kohn MJ, et al. (2010) The Acrosomal Protein Dickkopf-Like 1 (DKKL1) Facilitates Sperm Penetration Of The Zona Pellucida. *Fertil Steril*. 93 (5): 1533-7.

KOHN MJ, et al. (2005) DKKL1 (Soggy), A Dickkopf Family Member, Localizes to the Acrosome During Mammalian Spermatogenesis. *Mol Reprod Dev*. 71 (4): 516-22.

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