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DHH

Catalog # PVGS1421

Product Information

Primary Accession	Q61488
Species	Mouse
Sequence	Cys23-Gly198(Cys23Ile)
Purity	> 98% as analyzed by SDS-PAGE > 98% as analyzed by HPLC
Endotoxin Level	
Biological Activity	ED_{50}
Expression System	E. coli
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or PBS up to 100 □g/ml.
Storage & Stability	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.

Additional Information

Gene ID	13363
Other Names	Desert hedgehog protein, DHH, 3.1.-.-, HHG-3, Desert hedgehog protein N-product, Dhh {ECO:0000312|MGI:MGI:94891}
Target Background	Desert hedgehog protein (DHH) is a member of the Hedgehog family which encodes signaling molecules that play an important role in regulating morphogenesis. It is predicted to be made as a precursor that is auto-catalytically cleaved; the N-terminal portion is soluble and contains the signaling activity while the C-terminal portion is involved in precursor processing. More importantly, the C-terminal product covalently attaches a cholesterol moiety to the N-terminal product, restricting the N-terminal product to the cell surface and preventing it from freely diffusing throughout the organism. Defects in this protein have been associated with partial gonadal dysgenesis (PGD) accompanied by minifascicular polyneuropathy. DHH may be involved in both male gonadal differentiation and perineurial development. DHH binds both Patched and Patched 2 as well as Hedgehog interacting protein (Hip). It induces steroidogenicfactor 1(SF1), which is instrumental in promoting Leydig cell differentiation. It also promotes the

deposition of basal lamina surrounding seminiferous tubules.

Protein Information

Name	Dhh {ECO:0000312|MGI:MGI:94891}
Function	[Desert hedgehog protein]: The C-terminal part of the desert hedgehog protein precursor displays an autoproteolysis and a cholesterol transferase activity (By similarity). Both activities result in the cleavage of the full-length protein into two parts (DhhN and DhhC) followed by the covalent attachment of a cholesterol moiety to the C-terminal of the newly generated DhhN (By similarity). Both activities occur in the endoplasmic reticulum (By similarity). Functions in cell-cell mediated juxtacrine signaling (By similarity). Promotes endothelium integrity (PubMed:33063110). Binds to PTCH1 receptor, which functions in association with smoothened (SMO), to activate the transcription of target genes in endothelial cells (PubMed:33063110). In Schwann cells, controls the development of the peripheral nerve sheath and the transition of mesenchymal cells to form the epithelium-like structure of the perineurial tube (PubMed:10482238).
Cellular Location	[Desert hedgehog protein N-product]: Cell membrane {ECO:0000250|UniProtKB:Q62226}; Lipid-anchor {ECO:0000250|UniProtKB:Q62226}
Tissue Location	Expressed in adult testes (PubMed:8805249). Not expressed in limb buds.