

# Recombinant Human HHG-3/DHH Protein

Catalog No.: RP01758 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	50846	O43323

### Tags

N-6His

### Synonyms

GDMN; GDXYM; HHG-3;  
SRXY7;HHG-3;DHH

## Product Information

Source	Purification
<i>E. coli</i>	

### Endotoxin

&lt;1 EU/μg

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, 1mM DTT, pH 7.4.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize freeze-thaw cycles.

## Contact

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## Background

Desert Hedgehog (Dhh) belongs to the highly conserved Hedgehog family of proteins which are involved in multiple developmental processes. Desert Hedgehog is a secreted, 45 kDa, 373 amino acid (aa) protein that undergoes autocatalytic cleavage between Gly198 and Cys199 catalyzed by the C-terminal domain, which releases the N-terminal domain with a concomitant attachment of cholesterol at its new C-terminus. In addition to the C-terminally attached cholesterol, a fatty acid acyl chain is esterified to the N-terminal cysteine (aa 23) via an amide linkage. The 19 kDa N-terminal signaling domain is membrane associated due to its double lipid modifications. Its binding to Patched receptors results in the loss of Patched repression of Smoothened signaling (1 - 4). Dhh binds both Patched and Patched 2 as well as Hedgehog interacting protein (Hip) (5). Within the N-terminal domain, human Dhh shares 97% aa sequence identity with mouse and rat Dhh. It shares approximately 75% aa sequence identity with human Indian (Ihh) and Sonic Hedgehog (Shh) (5). Dhh is produced by Sertoli cells and is required for testis development and spermatogenesis (6, 7). It induces steroidogenic factor 1, which is instrumental in promoting Leydig cell differentiation (8, 9).

## Basic Information

### Description

Recombinant Human HHG-3/DHH Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Cys23-Gly198) of human HHG-3/DHH (Accession #NP\_066382.1) fused with a 6xHis tag at the N-terminus.

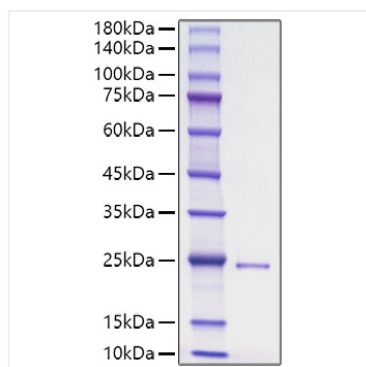
### Bio-Activity

### Storage

Store the lyophilized protein at -20°C to -80°C for 12 months. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

## Validation Data

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Recombinant Human HHG-3/DHH Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 20 kDa.