

## Overview

|                            |   |
|----------------------------|---|
| <b>Synonyms</b>            | DHH, Desert Hedgehog, HHG-3   |
| <b>Description</b>         | <p><b>Desert hedgehog protein (DHH)</b> 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 steroidogenic factor 1 (SF1), which is instrumental in promoting Leydig cell differentiation. It also promotes the deposition of basal lamina surrounding seminiferous tubules.</p> <p>Recombinant <b>mouse Desert Hedgehog (DHH)</b> produced in <i>E.coli</i> is a single non-glycosylated polypeptide chain containing 176 amino acids. A fully biologically active molecule, rmDHH has a molecular mass of 20.1 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques.</p> |
| <b>Accession No</b>        | Q61488  |
| <b>Species</b>             | Mouse   |
| <b>Source</b>              | <i>E. coli</i>  |
| <b>Biological Activity</b> | ED <sub>50</sub> <20 µg/ml, measured by its ability to induce alkaline phosphatase production by CCL-226 cells.   |
| <b>Sequence</b>            | <p>IIGPGRGPVG RRRYVRKQLV PLLYKQFVPS MPERTLGASG<br/>         PAEGRVTRGS ERFRDLVPNY NPDIIFKDEE NSGADRLMTE<br/>         RCKERVNALA IAVMMWPGV RLRVTEGWDE DGHHAQDSLH<br/>         YEGRALDITT SDRDRNKYGL LARLAVEAGF DWVYYESRNH<br/>         IHVSVKADNS LAVRAGG</p>  |

## Properties

|                                  |  |
|----------------------------------|--|
| <b>Measured Molecular Weight</b> | 20.1 kDa, observed by reducing SDS-PAGE.   |
| <b>Purity</b>                    | > 98% as analyzed by SDS-PAGE and HPLC.  |
| <b>Formulation</b>               | Lyophilized after extensive dialysis against PBS.  |
| <b>Reconstitution</b>            | Reconstituted in ddH <sub>2</sub> O or PBS at 100 µg/ml.   |
| <b>Endotoxin Level</b>           | < 0.2 EU/µg, determined by LAL method.   |
| <b>Storage</b>                   | Lyophilized recombinant <b>Mouse Desert Hedgehog (DHH)</b> remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Mouse Desert Hedgehog (DHH) should be stable up to 1 week at 4°C or up to 2 months at -20°C. |
| <b>Note</b>                      | For research use only  |

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