



## Indian Hedgehog, human recombinant (rHuIHH)

**Catalog No:** 97610  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** Indian hedgehog protein, IHH, HHG-2, BDA1

### Background

IHH belongs to the hedgehog family of secreted signaling molecules. Hedgehog proteins are vital regulators of various developmental processes including growth, patterning and morphogenesis. The vertebrate homologues of Hh comprise several proteins including sonic hedgehog (Shh), Indian hedgehog (Ihh), and Desert hedgehog (Dhh). IHH has a specific role in bone growth and differentiation. In addition, IHH is involved in yolk sac vasculogenesis, having a central role in differentiation of epiblast cells into endothelial and red blood cells. IHH mRNA expression is detected in fetal lung, gut, stomach, liver, kidney, pancreas and strongly in cartilage in growth regions of the developing bone. IHH gene mutations cause the brachydactyly type A1 which is characterized by shortening or malformation of the phalanges and also the acrocapitofemoral dysplasia.

### Description

IHH human recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 176 amino acids and having a molecular mass of 19.8 kDa. IHH is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

Lyophilized from a 0.2 µm filtered concentrated solution in 1xPBS, pH 7.4.

### Solubility

It is recommended to reconstitute the lyophilized IHH in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized IHH, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IHH should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Purity

Greater than 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

### Amino Acid Sequence

IIGPGRVVGSR RRRPPRKLVP LAYKQFSPNV PEKTLGASGR YEGKIARSSE RFKELTPNYN PDIIFKDEEN TGADRLMTQR  
CKDRLNSLAI SVMNQWPGVK LRVTEGWDED GHHSEESLHY EGRAVDITTS DRDRNKYGLL ARLAVEAGFD WVYYESKAHV  
HCSVKSEHSA AAKTGG

### Activity

Determined by its ability to induce alkaline phosphatase production by C3H/10T1/2 (CCL-226) cells. The expected ED50 for this effect is 3.0 - 10.0 µg/ml corresponding to a specific activity of 100-334 units/mg.

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### Usage

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