

DATASHEET

Version 20181206

Shh, Human**Cat. No.:** Z02910-1**Size:** 1.0 mg**Synonyms:** Shh Human;**Description:**

Members of the Hedgehog (Hh) family are highly conserved proteins which are widely represented throughout the animal kingdom. The three known mammalian Hh proteins, Sonic (Shh), Desert (Dhh) and Indian (Ihh) are structurally related and share a high degree of amino-acid sequence identity (e.g., Shh and Ihh are 93% identical). The biologically active form of Hh molecules is obtained by autocatalytic cleavage of their precursor proteins and corresponds to approximately the N-terminal one half of the precursor molecule. Although Hh proteins have unique expression patterns and distinct biological roles within their respective regions of secretion, they use the same signaling pathway and can substitute for each other in experimental systems. Recombinant *E. coli* derived Human Sonic Hedgehog is a 20.0 kDa protein consisting of 176 amino acid residues, including an N-terminal Ile-Val-Ile sequence substituted for the natural occurring chemically modified Cys residue

Amino Acid Sequence:

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00001 IVIGPGRGFG KRRHPKKLTP LAYKQFIPNV AEKTLGASGR
00041 YEGKISRNSE RFKELTPNYN PDIIFKDEEN TGADRLMTQR
00081 CKDKLNALAI SVMNQWPGVK LRVTEGWDED GHHSEESLHY
00121 EGRAVDITTS DRDRSKYGML ARLAVEAGFD WVYYESKAHI
00161 HCSVKAENSV AAKSGG
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Source: *E. coli***Species:** Human

Biological Activity: Fully biologically active when compared to standard. The ED₅₀ as determined by inducing alkaline phosphatase production of murine C3H/10T1/2 cells is less than 1 µg/ml, corresponding to a specific activity of $> 1.0 \times 10^3$ IU/mg.

Molecular Weight: Approximately 19.8 kDa, a single non-glycosylated polypeptide chain containing 176 amino acids.

Formulation: Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl.

Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Purity: > 98 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/µg of rHuSHH as determined by LAL method.

Storage: This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. Avoid repeated freeze/thaw cycles.