

Recombinant Human Sonic Hedgehog (SHH)

Product Description

Members of the Hedgehog (Hh) family are highly conserved proteins that 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 each Hh molecule is obtained by autocatalytic cleavage of their precursor proteins, and each corresponds to approximately one half of the N-terminal portion 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 be substituted for one another 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 naturally occurring, chemically modified, Cys residue.

Typical Specifications

Species	Human
Expression	E. coli Cell Expressed
Activity	Typically 0.8-1.0 µg/ml ED ₅₀
Purity	≥98%
Endotoxin	<1.0 EU/µg
Molecular Mass	20.0 kDa
Country of Origin	USA

Purity Confirmation

This was determined by SDS-PAGE gel and HPLC analysis.

Activity Assay

Determined by its ability to induce alkaline phosphatase production by C3H/10T1/2 (CCL-226) cells.

AA Sequence

IVIGPGRGFG	KRRHPKKLTP	LAYKQFIPNV
AEKTLGASGR	YEGKISRNSE	RFKELTPNYN
PDIIFKDEEN	TGADRLMTQR	CKDKLNALAI
SVMNQWPGVK	LRVTEGWDED	GHHSEESLHY
EGRALDITTS	DRDRSKYGML	ARLAVEAGFD
WVYYESKAHI	HCSVKAENSV	AAKSGG

Reconstitution Buffer

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex.

Storage

For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% HSA) and store in working aliquots at -20°C to -80°C.

Limited Use and Restrictions

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