
Product Data Sheet

Product Name: SHH (C24II) Human
 Cat. No.: GP20882
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Sonic Hedgehog; MCOPCB5; SMMCI; HLP3; HPE3; Sonic Hedgehog (Drosophila) Homolog; Sonic Hedgehog Homolog (Drosophila); Sonic Hedgehog Homolog; Sonic Hedgehog Protein; TPTPS; HHG-1; HHG1; TPT; SHH (C24II).		
Amino Acid Sequence	MIIGPGRGFG KRRHPKKLTP LAYKQFIPNV AEKTLGASGR YEGKISRNSE RFKELTPNYN PDIIFKDEEN TGADRLMTQR CKDKLNALAI SVMNQWPGVK LRVTEGWDED GHHSEESLHY EGRAVDITTS DRDRSKYGML ARLAVEAGFD WVYYESKAHI HCSVKAENSV AAKSGG		
Formulation	The SHH protein solution (1mg/ml) containing Phosphate buffered saline (pH7.4).		

Introduction

Sonic Hedgehog is part of a small group of secreted proteins which are vital for development in both vertebrates and invertebrates. 3 mammalian hedgehog genes (sonic, desert, Indian) share about 60% homology. The Human Sonic Hedgehog is 99% homologous to the mouse gene. Sonic HedgeHog is a protein that is vital in guiding the early embryo. It has been associated as the major inductive signal in patterning of the ventral neural tube, the anterior-posterior limb axis, and the ventral somites. Sonic HedgeHog binds to the patched receptor, which functions in association with smoothened, to activate the transcription of target genes. In the absence of sonic HedgeHog, patched receptor represses the constitutive signaling activity of smoothened. Sonic HedgeHog also regulates another factor, the gli oncogene. Sonic HedgeHog intercellular signal is essential for a various patterning events during development: signal produced by the notochord that induces ventral cell fate in the neural tube and somites, and the polarizing signal for patterning of the anterior-posterior axis of the

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developing limb bud. Sonic HedgeHog exhibits both floor plate- and motor neuron-inducing activity. Mutations in a long-range Sonic HedgeHog enhancer located in an intron of the limb region 1 gene result in preaxial polydactyly.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

SHH Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 176 amino acids (24-197 a.a.) and having a molecular mass of 19.8kDa (The Cys at position 24 has been replaced with 2 Ile). The SHH is purified by proprietary chromatographic techniques.

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