

## Active Recombinant Human SHH Protein (Animal Free)

Cat. No. SHH-08H Lot. No. (See product label)

### SPECIFICATION

|                         |   |
|-------------------------|---|
| <b>Product Overview</b> | Recombinant Human SHH Protein (Animal Free) without tag was expressed in E. coli. The protein is manufactured using all non-animal reagents.  |
| <b>Species</b>          | Human   |
| <b>Source</b>           | E.coli  |
| <b>Description</b>      | Sonic hedgehog (SHH) is used to study differentiation and expansion of human and mouse embryonic and adult stem cells. Studies suggest SHH is involved in regulating stem cell fates of neural and hematopoietic lineages <sup>1</sup> . It controls cell division of adult stem cells and has been implicated in development of some cancers <sup>2</sup> . SHH is instrumental in early embryo patterning and development. It has been implicated as the key inductive signal in patterning of the ventral neural tube, the anterior-posterior limb axis, and the ventral somites <sup>3</sup> . The mature biologically active form of SHH molecule is produced by autocatalytic cleavage of its precursor protein and corresponds to approximately the N-terminal half of the precursor molecule. Sonic Hedgehog is an approximately 20 kDa protein expressed in E. coli consisting of 175 amino acid residues. |
| <b>Form</b>             | Lyophilized   |
| <b>Bio-activity</b>     | Determined by its ability to induce alkaline phosphatase production by C3H/10T1/2 (CCL-226) cells. The expected ED50 for this effect is 0.75 µg/mL.   |
| <b>AA Sequence</b>      | IIGPGRGFGKRRHPKLLTPLAYKQFIPNVAEKT LGASGRYEGKITRNSERFKELTPNY   |

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NPDIIFKDEENTGADRLMTQRCKDKLNALAISVMNQWPGVKLRVTEGWDEDGHHSE  
 ESLHYEGRAVDITTSRDRSKYGMLARLAVEAGFDWVYYESKAHIHCSVKAENSV  
 AKSGG

**Endotoxin** < 0.01 ng/μg cytokine as determined by the LAL assay

**Purity** > 98% by SDS-PAGE

**Usage** Useful for cell culture and for the study of signaling pathways.

**Storage** Upon receipt, it should be stored immediately at -20 to -80 centigrade. Lyophilized human SHH is stable at -20 to -80 centigrade for up to 18 months.

**Storage Buffer** Lyophilized (freeze-dried) from a 0.22 sterile-filtered solution in 1xPBS & 0.1 M NaCl.

**Reconstitution** Centrifuge vial before opening. It is recommended to reconstitute SHH in sterile water to yield a stock solution of 0.1-1.0 mg/mL of SHH. It is stable for 2 weeks when stored at 4 centigrade and up to 6 months when stored at -20 centigrade and up to 12 months when stored at -80 centigrade. Multiple freeze/thaw cycles will result in significant loss of activity.

**Shipping** The product is shipped at ambient temperature with ice bags.

## GENE INFORMATION

**Gene Name** SHH sonic hedgehog [ *Homo sapiens* (human) ]

**Official Symbol** SHH

**Synonyms** SHH; sonic hedgehog; HLP3, HPE3, sonic hedgehog (*Drosophila*) homolog , sonic hedgehog homolog (*Drosophila*); sonic hedgehog protein; HHG1; MCOPCB5;

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SMMCI; TPT; TPTPS; sonic hedgehog homolog; HLP3; HPE3;

**Gene ID** 6469

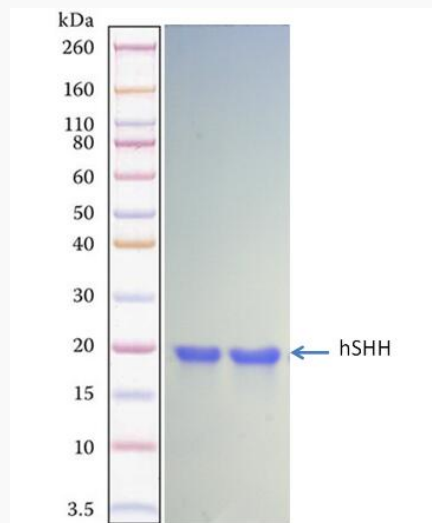
**mRNA Refseq** NM\_000193

**Protein Refseq** NP\_000184

**MIM** 600725

**UniProt ID** Q15465

**SDS-PAGE**



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