



Product Datasheet

Product Name	Sonic Hedgehog Mouse Recombinant
Cata No	CB501331
Source	<i>Escherichia Coli.</i>
Synonyms	SHH, HHG-1, HHG1, Sonic hedgehog protein.

Description

Recombinant Mouse Sonic Hedgehog is part of a small group of secreted proteins that are vital for development in both vertebrates and invertebrates. 3 mammalian hedgehog genes (sonic, desert, Indian) share about 60% homology. The Mouse Sonic Hedgehog is 99% homologous to the human 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 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. Sonic Hedgehog Recombinant Mouse produced in E.Coli is a single, non-glycosylated polypeptide chain containing 176 amino acids and having a

molecular mass of 19.8 kDa. The Mouse Sonic Hedgehog is 99% homologous to the human gene. Cysteine at position 25 has been substituted with Ile. The Sonic HedgeHog is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Biological Activity

Determined by it's ability to induce alkaline phosphatase production by C3H10T1/2 fibroblasts, with an expected ED₅₀ in the range of 0.05 – 0.25 ug/ml.

Purity

Greater than 97.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

Lyophilized from a concentrated (1mg/ml) solution in water containing 10mM sodium Phosphate buffer pH-7.5.

Reconstitution

It is recommended to reconstitute the lyophilized Sonic HedgeHog in sterile 18MΩ-cm H₂O at a concentration of 0.1mg-0.5mg per 1ml.

Stability

Lyophilized Mouse Sonic HedgeHog although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution

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Sonic HedgeHog should be stored at 4°C between
2-7 days and for future use below -18°C.

Please prevent freeze-thaw cycles.

Sequence

MIIGPGRGFG KRRHPKLT LAYKQFIPNV
AEKTLGASGR YEGKITRNSE RFKELTPNYN

PDIIFKDEEN TGADRLN **Protein Data Sheet**
SVMNQWPGVK LRVTEGWDED GHHSEESLHY
EGRAVDITTS DRDRSKYGML ARLAVEAGFD
WVYESKAHI HCSVKAENSV AAKSGG.

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