

# Human Sonic Hedgehog (Shh) Protein

Cat. No. SHH-HE001

## Description

<b>Source</b>	Recombinant Human Sonic Hedgehog (Shh) Protein is expressed from E.coli without tag. It contains Cys24-Gly197.
<b>Accession</b>	Q15465
<b>Molecular Weight</b>	The protein has a predicted MW of 19.79 kDa kDa. The protein migrates to 23-25 kDa based on Bis-Tris PAGE result.
<b>Endotoxin</b>	Less than 0.05 EU per µg by the LAL method.
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC

## Formulation and Storage

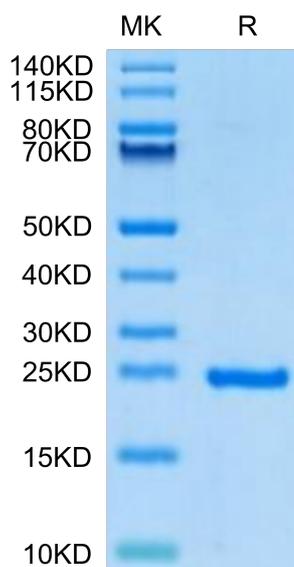
<b>Formulation</b>	Lyophilized from 0.22 µm filtered solution in PBS, 300mM NaCl (pH 7.4). Normally 8% trehalose / 8% mannitol is added as protectant before lyophilization.
<b>Reconstitution</b>	Dissolve the lyophilized protein in distilled water. Please refer to the Certificate of Analysis for detailed instructions.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -80°C for 3 months after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

Sonic hedgehog (Shh) is a secreted protein with important roles in mammalian embryogenesis. During tooth development, Shh is primarily expressed in the dental epithelium, from initiation to the root formation stages.

## Assay Data

### Bis-Tris PAGE



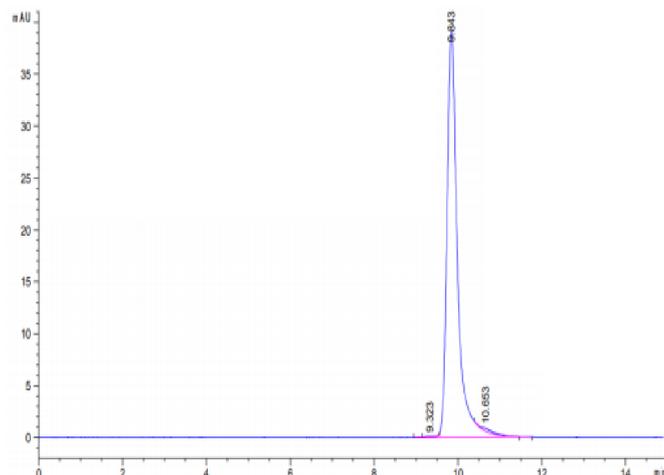
Human Sonic Hedgehog (Shh) on Bis-Tris PAGE under reduced condition. The purity is greater than 95%.

### SEC-HPLC

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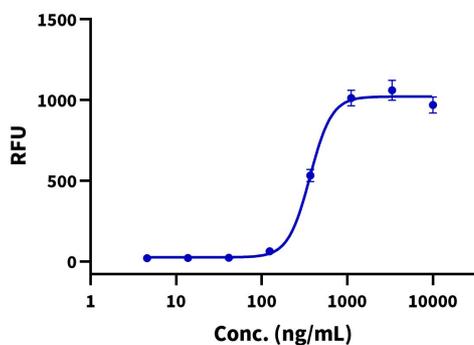
## Assay Data



The purity of Human Sonic Hedgehog (Shh) is greater than 95% as determined by SEC-HPLC.

## Cell Based Assay

### Recombinant Human Sonic Hedgehog (Shh) Bioactivity



Measured by its ability to induce alkaline phosphatase production by C3H10T1/2 mouse embryonic fibroblast cells. The ED50 for this effect is 0.1-0.4  $\mu$ g/mL.