**General Information**

**Gene Name Synonym:**

HHG1; HLP3; HPE3; MCOPCB5; SMMCI; Sonic hedgehog; TPT; TPTPS

**Protein Construction:**

A DNA sequence encoding the amino acid sequence (Met 1-Gly 197) of human SHH (Q15465), that is Sonic hedgehog protein N-product, was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

**QC Testing**

**Purity:** > 95 % as determined by SDS-PAGE

**Bio Activity:**


**Endotoxin:**

< 1.0 EU per μg of the protein as determined by the LAL method

**Stability:**

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Cys 24

**Molecular Mass:**

The recombinant human SHH (aa 1-197) consists of 185 amino acids and has a predicted molecular mass of 21 kDa. The apparent molecular mass of the protein is approximately 24 kDa in SDS-PAGE under reducing conditions due to glycosylation.

**Formulation:**

Lyophilized from sterile PBS, pH 7.4

**Usage Guide**

**Storage:**

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**

Detailed reconstitution instructions are sent along with the products.

**SDS-PAGE:**

![SDS-PAGE Image]

**Protein Description**

Sonic HedgeHog, also known as sonic hedgehog protein, belongs to the hedgehog family. It cannot be detected in adult tissues while can be found in fetal intestine, liver, lung, and kidney. 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 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 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. Defects in sonic hedgehog can cause microphthalmia isolated with coloboma type 5, triphalangeal thumb-polydactyly syndrome and holoprosencephaly type 3.

**References**