

Recombinant Rat Sonic hedgehog N-product/SHH Protein

Catalog No.: RP01896 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Rat	29499	Q63673

Tags

C-His

Synonyms

Shh; Vhh-1; Sonic hedgehog protein; SHH; 3.1.-.; Shh unprocessed N-terminal signaling and C-terminal autoprocessing domains; ShhNC; Cleaved into: Sonic hedgehog protein N-product; ShhN; Shh N-terminal processed signaling domains; ShhNp

Product Information

Source	Purification
HEK293 cells	≥ 90% as determined by SDS-PAGE.

Calculated MW	Observed MW
20.53 kDa	20-25 kDa

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize freeze-thaw cycles.

Background

Sonic Hedgehog Protein (SHH, VHH-1) belongs to hedgehog protein family which includes Indian Hh, and Desert Hh. Hh family is involved in the cell fate and patterning during embryonic development, homeostasis, and adult tissue renewal. Similar to other member in the family, SHH binds to the patched (PTC) cell surface receptor, releasing the signal transducer Smoothened (Smo) to transmit the Hh signal into the cell and activate transcription of the target gene. Precursor SHH is autocatalytically cleaved into two subunits, N-terminal and C-terminal products. Soluble N-terminal product is involved in the signaling activity, while C-product displays an autoproteolysis activity on the precursor and a cholesterol transferase activity on the N-terminal product. C-terminal product attaches a cholesterol moiety to the N-terminal product, preventing N-terminal product diffusion within the developing embryo. A defect in SHH has been linked in holoprosencephaly type 3 (HPE3), in which developing forebrain fails to separate into right and left hemispheres, and ocular coloboma.

Basic Information

Description

Recombinant Rat Sonic hedgehog N-product/SHH Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala24-Gly198) of Rat Sonic hedgehog /SHH (Accession #NP_058917.1) fused with a His tag at the C-terminus.

Bio-Activity

Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

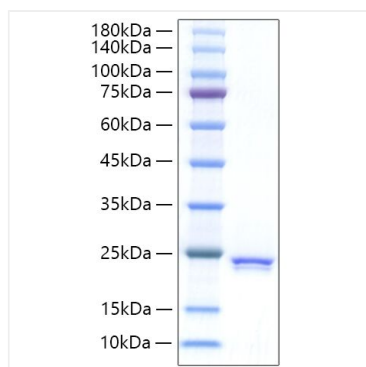
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Validation Data



Recombinant Rat Sonic hedgehog N-product/SHH Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.