

Recombinant Human Sonic Hedgehog N-Terminus

#R00541

Size: 5 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Sonic Hedgehog (SHH) is one of three proteins of the Hedgehog (Hh) family, which also contains Desert Hedgehog (DHH) and Indian Hedgehog (IHH). The three members share a high degree of amino-acid sequence identity (e.g., SHH and IHH are 93 % identical). SHH is expressed in fetal intestine, liver, lung, and kidney, but not in adult tissues. The protein consists of 462 a.a. with a 23a.a. signal peptide at N-terminus, and is further cleaved into SHH N-Terminus and C-Terminus. SHH has the most critical roles in development, acting as a morphogen involved in patterning many systems, including the limb and midline structures in the brain, spinal cord, the thalamus by the zona limitans intrathalamica and the teeth. In the absence of Sonic HedgeHog, patched receptor represses the constitutive signaling activity of smoothened. SHH-N retains all known signaling capabilities, and can be lipid-modified without receptor

affinity reducing, but has more potent than the unmodified form. The rHuSHH has an N-terminal Ile-Val-Ile sequence substituted for the natural occurring chemically modified Cys residue.

AA Sequence

IVIGPGRGFGKRRHPKKLTPLAYKQFIPNVAEKT LGAS
GRYEGKISRNSERFKELTPNYPDIIFKDEENTGADRL
MTQRCKDKLNALAISVMNQWPGVKLRVTEGWDEDG
HHSEESLHYEGRAVDITTSRDRSKYGMLARLAVEA
GFDWVYYESKAHIHCSVKAENSVAAKSGG

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered

solutions.

Product Specification	
Synonyms	HHG-1
Accession	Q15465
GeneID	6469
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 19.8 kDa, a single non-glycosylated polypeptide chain containing 176 amino acids.
Purity	> 98 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by inducing alkaline phosphatase production of murine C3H/10T1/2 cells is less than 1 µg/ml, corresponding to a specific activity of > 1.0 ×

	10 ³ IU/mg.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl.
Endotoxin	Less than 1 EU/µg of rHuSHH as determined by LAL method.