

Product datasheet for **AR20002PU-N**

Sonic hedgehog (SHH) Human Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Sonic hedgehog (SHH) human protein, 25 µg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	IVIGPGRGFG KRRHPKKLTP LAYKQFIPNV AEKTLGASGR YEGKISRNSE RFKELTPNYN PDIIFKDEEN TGADRLMTQR CKDKLNALAI SVMNQWPGVK LRVTEGWDED GHHSEESLHY EGRALDITTS DRDRSKYGML ARLAVEAGFD WVYYESKAHI HCSVKAENSV AAKSGG
Purity:	>98% pure by SDS-PAGE gel and HPLC analyses.
Buffer:	Presentation State: Purified State: Lyophilized (0.2 µ sterile filtered) protein without additives
Bioactivity:	Biological: Determined by its ability to induce alkaline phosphatase production by C3H/10T1/2 (CCL-226) cells. The expected ED50 for this effect is 0.8-1.0 µg/ml.
Endotoxin:	< 0.1 ng per µg (1EU/µg)
Preparation:	Lyophilized (0.2 µ sterile filtered) protein without additives
Applications:	Recombinant E. coli derived Human Sonic HedgeHog is a 20.0 kDa protein consisting of 176 amino acid residues, including an N-terminal Ile-Val-Ile sequence substituted for the natural occurring chemically modified Cys residue.
Storage:	Store the lyophilized protein at -20°C. Following reconstitution product is stable for 3 months when stored in working aliquots with a carrier protein at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: One year from despatch.
RefSeq:	<u>NP_000184</u>
Locus ID:	6469
UniProt ID:	<u>Q15465</u>
Cytogenetics:	7q36.3
Synonyms:	Sonic hedgehog protein, HHG-1



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Summary:	<p>This gene encodes a protein that is instrumental in patterning the early embryo. It has been implicated as the key inductive signal in patterning of the ventral neural tube, the anterior-posterior limb axis, and the ventral somites. Of three human proteins showing sequence and functional similarity to the sonic hedgehog protein of <i>Drosophila</i>, this protein is the most similar. The protein is made as a precursor that is autocatalytically cleaved; the N-terminal portion is soluble and contains the signalling activity while the C-terminal portion is involved in precursor processing. More importantly, the C-terminal product covalently attaches a cholesterol moiety to the N-terminal product, restricting the N-terminal product to the cell surface and preventing it from freely diffusing throughout the developing embryo. Defects in this protein or in its signalling pathway are a cause of holoprosencephaly (HPE), a disorder in which the developing forebrain fails to correctly separate into right and left hemispheres. HPE is manifested by facial deformities. It is also thought that mutations in this gene or in its signalling pathway may be responsible for VACTERL syndrome, which is characterized by vertebral defects, anal atresia, tracheoesophageal fistula with esophageal atresia, radial and renal dysplasia, cardiac anomalies, and limb abnormalities. Additionally, mutations in a long range enhancer located approximately 1 megabase upstream of this gene disrupt limb patterning and can result in preaxial polydactyly. [provided by RefSeq, Jul 2008]</p>
Protein Families:	<p>Recombinant <i>E. coli</i> derived Human Sonic HedgeHog is a 20.0 kDa protein consisting of 176 amino acid residues, including an N-terminal Ile-Val-Ile sequence substituted for the natural occurring chemically modified Cys residue.</p>
Protein Pathways:	<p>Basal cell carcinoma, Hedgehog signaling pathway, Pathways in cancer</p>