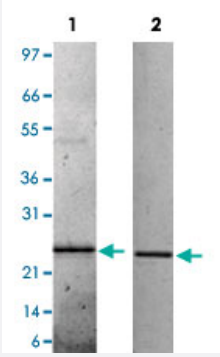
Bioactive

SHH (Human) Recombinant Protein

Catalog # P4440 Size 25 ug

Applications



Lane 1: non-reducing conditions
Lane 2: reducing conditions

Result of activity analysis

Result of activity analysis

Serial dilutions of human SHH, starting at 5 ug/mL, were added to with CCL-226 cells in the presence of 1 uM Retinoic Acid. Alkaline phosphatase was measured and the linear portion of the curve was us used to calculate the ED50.

Specification

Product Description	Human SHH (Q15465) recombinant protein expressed in *Escherichia coli*.
Sequence	MIIGPGRGFGKRRHPKKLTPLAYKQFIPNVAEKTLGASGRYEGKISRNSERFKELTPNYNPDIIFKDE ENTGADRLMTQRCKDKLNALAISVMNQWPGVKLRVTEGWDEDGHHSEESLHYEGRALDITTSDR DRSKYGMLARLAVEAGFDWVYYESKAHIHCSVKAENSVAAKSGGCFP
Host	Escherichia coli
Theoretical MW (kDa)	19.7
Form	Lyophilized
Preparation Method	*Escherichia coli* expression system

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Endotoxin Level	< 0.1 EU/ug
Activity	The activity is determined by the dose-dependent increase of alkaline phosphatase activity by C3H/10T1/2 (CCL-226) fibroblasts. The expected ED_{50} for this effect is 1.2-1.8 ug/mL.
Quality Control Testing	1 ug/lane in 4-20% Tris-Glycine gel Stained with Coomassie Blue Lane 1: non-reducing conditions Lane 2: reducing conditions
Storage Buffer	Lyophilized from 10 mM Na_2PO_4, pH 7.5
Storage Instruction	Store at -20°C on dry atmosphere. After reconstitution with sterilized water, store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.
Note	Result of activity analysis Result of activity analysis Serial dilutions of human SHH, starting at 5 ug/mL, were added to with CCL-226 cells in the presence of 1 uM Retinoic Acid. Alkaline phosphatase was measured and the linear portion of the curve was us used to calculate the ED50.

Applications

- Functional Study
- SDS-PAGE

Gene Info — SHH

Entrez GeneID	6469
Protein Accession#	Q15465
Gene Name	SHH
Gene Alias	HHG1, HLP3, HPE3, MCOPCB5, SMMCI, TPT, TPTPS
Gene Description	sonic hedgehog homolog (Drosophila)
Omim ID	120200 142945 147250 174500 600725
Gene Ontology	Hyperlink

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Gene Summary	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 Drosophila, 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
Other Designations	sonic hedgehog

Pathway

- Basal cell carcinoma
- Hedgehog signaling pathway
- Pathways in cancer

Disease

- Cleft Lip
- Cleft Palate
- Genetic Predisposition to Disease
- Holoprosencephaly
- Kidney Failure
- Parkinson disease
- Sleep Apnea
- Syndrome
- Thyroid Neoplasms

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