

## SHH Antibody

### Purified Mouse Monoclonal Antibody

Catalog # AO1409a

## Specification

### SHH Antibody - Product Information

Application	<b>WB</b>
Primary Accession	<a href="#">Q15465</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>49.6kDa KDa</b>

### Description

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.

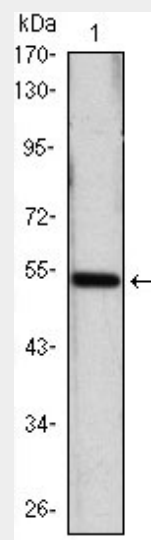


Figure 1: Western blot analysis using SHH mAb against SHH(AA: 26-161)-hIgGfc transfected HEK293 cell lysate.

### SHH Antibody - References

1. Cancer Lett. 2010 Jan 1;287(1):44-53.
2. Oncogene. 2009 Oct 8;28(40):3513-25.
3. J Biol Chem. 2009 Nov 20;284(47):32562-71.

**Immunogen**

Purified recombinant fragment of human SHH expressed in E. Coli.

**Formulation**

Ascitic fluid containing 0.03% sodium azide.

**SHH Antibody - Additional Information**

**Gene ID** 6469

**Other Names**

Sonic hedgehog protein, SHH, HHG-1, Sonic hedgehog protein N-product, Sonic hedgehog protein C-product, SHH

**Dilution**

WB~1/500 - 1/2000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

SHH Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**SHH Antibody - Protein Information**

**Name** SHH ([HGNC:10848](#))

**Function**

[Sonic hedgehog protein]: The C-terminal part of the sonic hedgehog protein precursor displays an autoproteolysis and a cholesterol transferase activity (By similarity). Both activities result in the cleavage of the full-length protein into two parts (ShhN and ShhC) followed by the covalent attachment of a cholesterol moiety to the C-terminal of the newly generated ShhN (By similarity). Both activities occur in the reticulum endoplasmic (By similarity). Once cleaved, ShhC is degraded in the endoplasmic reticulum (By similarity).

**Cellular Location**

[Sonic hedgehog protein N-product]: Cell membrane  
{ECO:0000250|UniProtKB:Q62226};  
Lipid-anchor

{ECO:0000250|UniProtKB:Q62226}.

Note=The dual-lipidated sonic hedgehog protein N-product (ShhNp) is firmly tethered to the cell membrane where it forms multimers (PubMed:24522195). Further solubilization and release from the cell surface seem to be achieved through different mechanisms, including the interaction with DISP1 and SCUBE2, movement by lipoprotein particles, transport by cellular extensions called cytonemes or by the proteolytic removal of both terminal lipidated peptides (PubMed:26875496, PubMed:24522195)

### **SHH Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)