

Product Name: KD-Validated Sonic Hedgehog Signaling Molecule Recombinant Rabbit Monoclonal Antibody

Catalog #: KVA00840

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 49.6kDa

Antigen Information

Gene Name	SHH
Alternative Names	SHH; Sonic Hedgehog Signaling Molecule; MCOPCB5; SMMCI; TPTPS; HHG1; TPT; Shh Unprocessed N-Terminal Signaling And C-Terminal Autoprocessing Domains; Sonic Hedgehog Protein; ShhNC; HLP3; HPE3; Sonic Hedgehog (Drosophila) Homolog; Sonic Hedgehog Homolog; EC 3.1.-.-; HHG-1
Gene ID	6469.0
SwissProt ID	Q15465
Immunogen	A synthesized peptide derived from human Sonic Hedgehog

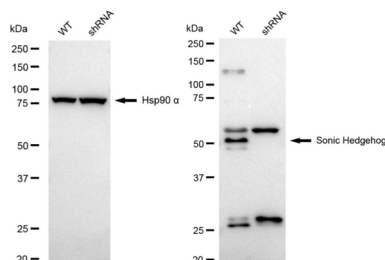
Background

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, Jul 2008]

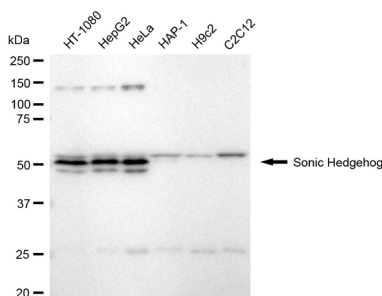
Research Area

Epigenetics and Nuclear Signaling, Stem Cells, Cancer, Developmental Biology, Metabolism

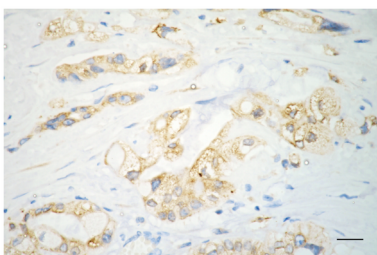
Image Data



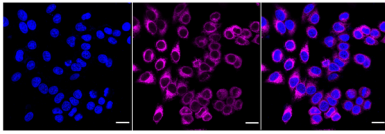
Western blotting analysis using sonic hedgehog signaling molecule antibody (KVA00840). Sonic hedgehog signaling molecule expression in wild-type (WT) and sonic hedgehog signaling molecule (SHH) shRNA knockdown (KD) HeLa cells with 30 μ g of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with sonic hedgehog signaling molecule antibody (KVA00840, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



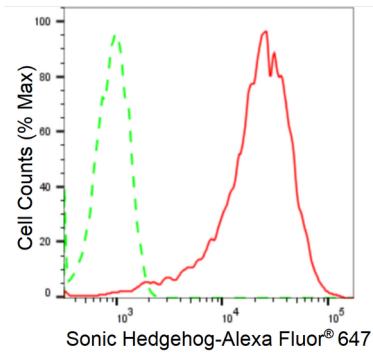
Western blotting analysis using sonic hedgehog signaling molecule antibody (KVA00840). Total cell lysates (30 μ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with sonic hedgehog signaling molecule antibody (KVA00840, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



Immunohistochemistry was performed on paraffin-embedded human pancreatic adenocarcinoma using sonic hedgehog signaling molecule antibody (KVA00840, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40 $\times$ objective). Scale bar: 25 μ m.



Immunocytochemical staining of HepG2 cells with sonic hedgehog signaling molecule antibody (KVA00840, 1:1,000). Nuclei were stained blue with DAPI; Sonic hedgehog signaling molecule was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar, 20 μ m.



Flow cytometric analysis of sonic hedgehog signaling molecule expression in HepG2 cells using sonic hedgehog signaling molecule antibody (KVA00840, 1:2,000). Green, isotype control; red, Sonic hedgehog signaling molecule.