abcam

ab135240

Anti-Sonic Hedgehog antibody [5H4]

Mouse Monoclonal Sonic Hedgehog antibody. Suitable for Flow Cyt, WB, IHC-P and reacts with Human, Mouse, African green monkey samples. Cited in 13 publications. Immunogen corresponding to Recombinant Fragment Protein within Human SHH aa 1-200.

Image updates are in progress. Products remain available and covered by the Abcam Product Promise. Learn more.

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human SHH aa 1-200. The exact immunogen used to generate this antibody is proprietary information. Database link Q15465
Clone number	5H4
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	1/200 - 1/400
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	African green monkey
Dilution info	1/200 - 1/400
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	African green monkey
Dilution info	1/500 - 1/2000
Notes	-

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	African green monkey
Dilution info	1/200 - 1/1000
Notes	-

Species	Mouse
Dilution info	1/200 - 1/1000
Notes	-

Target data

See full target information SHH

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 endoplasmic reticulum (By similarity). Once cleaved, ShhC is degraded in the endoplasmic reticulum (By similarity). Sonic hedgehog protein N-product. The dually lipidated sonic hedgehog protein N-product (ShhNp) is a morphogen which is essential for a variety of patterning events during development. Induces ventral cell fate in the neural tube and somites (PubMed:24863049). Involved in the patterning of the anterior-posterior axis of the developing limb bud (By similarity). Essential for axon guidance (By similarity). Binds to the patched (PTCH1) receptor, which functions in association with smoothened (SMO), to activate the transcription of target genes (PubMed:10753901). In the absence of SHH, PTCH1 represses the constitutive signaling activity of SMO (PubMed:10753901).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C

Notes

This product was changed from ascites to supernatant. Lot no's high than GR164113-18 are from Tissue Culture Supernatant

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Sonic Hedgehog also known as SHH is a protein that plays an important role in cell signaling during embryonic development. It has alternative names like 'HHG-1' and '5h4'. The Sonic Hedgehog protein is about 45 kDa in mass. Scientists find SHH expression in various tissues including the brain lungs and limb buds. Its activity plays a role in the organization of several tissue structures during development helping to regulate cellular growth and differentiation processes.
Biological function summary	Sonic Hedgehog is critical for the vertebrate embryonic patterning and organogenesis. It functions as a signaling molecule and is part of the Hedgehog signaling complex. The protein acts by binding to the Patched receptor further influencing the Smoothened transducer in cellular signaling cascades. This signaling contributes to the proper formation of limbs central nervous system structures and other vital organs in early development stages.
Pathways	Sonic Hedgehog participates in essential signaling pathways such as the Hedgehog pathway and the Wnt signaling pathway. It interacts with proteins including the Patched and Smoothened to facilitate downstream genetic transcription regulation. Through these pathways Sonic Hedgehog influences the transcription of specific genes that control cell growth. These interactions contribute to the regulation of different cell types and the organization of distinct tissue areas.
Associated diseases and disorders	Sonic Hedgehog connects to issues like cancer and congenital malformations. Aberrations in its signaling can lead to conditions such as basal cell carcinoma and holoprosencephaly. Sonic Hedgehog through its influence on the Hedgehog signaling pathway implicates interactions with other proteins like GLI transcription factors and Patched. These interactions can dysregulate cellular processes and result in disease states when not functioning correctly.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

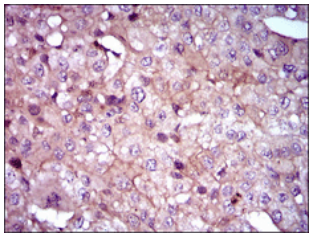
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

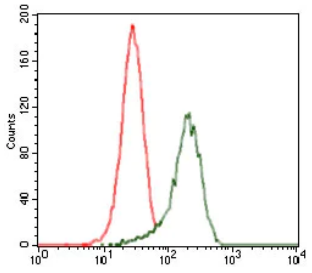
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sonic Hedgehog antibody [5H4] (ab135240)

Sonic Hedgehog Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Sonic Hedgehog antibody

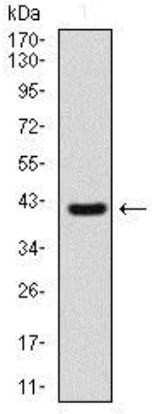
Immunohistochemical analysis of Paraffin-embedded Human liver cancer tissue labelling Sonic Hedgehog with ab135240 at 1/200 dilution followed by DAB staining.



Flow Cytometry - Anti-Sonic Hedgehog antibody [5H4] (ab135240)

Sonic Hedgehog Flow Cytometry staining using mouse Anti-Sonic Hedgehog antibody

Flow cytometric analysis of HeLa cells labelling Sonic Hedgehog with ab135240 at 1/200 dilution (green). Negative control (red).



Western blot - Anti-Sonic Hedgehog antibody [5H4] (ab135240)

Expected MW is 41 kDa.
All lanes:
Western blot - Anti-Sonic Hedgehog antibody [5H4] (ab135240) at 1/500 dilution

All lanes:
Human Sonic Hedgehog recombinant protein

Predicted band size: 49 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.