

Product datasheet

Anti-Sonic Hedgehog antibody ab240438

5 Images

Overview

<b>Product name</b>	Anti-Sonic Hedgehog antibody
<b>Description</b>	Goat polyclonal to Sonic Hedgehog
<b>Host species</b>	Goat
<b>Tested applications</b>	<b>Suitable for:</b> WB, Flow Cyt, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Synthetic peptide corresponding to Human Sonic Hedgehog aa 448-460 (C terminal) (Cysteine residue). (NP_000184.1) Sequence: C-DSEALHPLGMAVK  Database link: <a href="#">Q15465</a>

 [Run BLAST with](#)  [Run BLAST with](#)

**Positive control** WB: Human liver lysate. ICC/IF: HeLa, U-251 MG and NIH/3T3 cells. Flow Cyt: HeLa cells.

**General notes**

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

## Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
<b>Purity</b>	Immunogen affinity purified
<b>Purification notes</b>	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

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Our [Abpromise guarantee](#) covers the use of **ab240438** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 1 - 3 µg/ml. 1 hour primary incubation is recommended for this product.
Flow Cyt		Use a concentration of 10 µg/ml.
ICC/IF		Use a concentration of 10 µg/ml.

## Target

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<b>Function</b>	Binds to the patched (PTC) receptor, which functions in association with smoothened (SMO), to activate the transcription of target genes. In the absence of SHH, PTC represses the constitutive signaling activity of SMO. Also regulates another target, the gli oncogene. Intercellular signal essential for a variety of patterning events during development: signal produced by the notochord that induces ventral cell fate in the neural tube and somites, and the polarizing signal for patterning of the anterior-posterior axis of the developing limb bud. Displays both floor plate- and motor neuron-inducing activity. The threshold concentration of N-product required for motor neuron induction is 5-fold lower than that required for floor plate induction.
<b>Tissue specificity</b>	Expressed in fetal intestine, liver, lung, and kidney. Not expressed in adult tissues.
<b>Involvement in disease</b>	Defects in SHH are the cause of microphthalmia isolated with coloboma type 5 (MCOPCB5) [MIM:611638]. Microphthalmia is a clinically heterogeneous disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues. Ocular abnormalities like opacities of the cornea and lens, scarring of the retina and choroid, cataract and other abnormalities like cataract may also be present. Ocular colobomas are a set of malformations resulting from abnormal morphogenesis of the optic cup and stalk, and the fusion

of the fetal fissure (optic fissure).

Defects in SHH are the cause of holoprosencephaly type 3 (HPE3) [MIM:142945].

Holoprosencephaly (HPE) [MIM:236100] is the most common structural anomaly of the brain, in which the developing forebrain fails to correctly separate into right and left hemispheres.

Holoprosencephaly is genetically heterogeneous and associated with several distinct faces and phenotypic variability. The majority of HPE3 cases are apparently sporadic, although clear examples of autosomal dominant inheritance have been described. Interestingly, up to 30% of obligate carriers of HPE3 gene in autosomal dominant pedigrees are clinically unaffected.

Defects in SHH are a cause of solitary median maxillary central incisor (SMMCI) [MIM:147250]. SMMCI is a rare dental anomaly characterized by the congenital absence of one maxillary central incisor.

Defects in SHH are the cause of triphalangeal thumb-polysyndactyly syndrome (TPTPS) [MIM:174500]. TPTPS is an autosomal dominant syndrome characterized by a wide spectrum of pre- and post-axial abnormalities due to altered SHH expression pattern during limb development. TPTPS mutations have been mapped to the 7q36 locus in the LMBR1 gene which contains in its intron 5 a long-range cis-regulatory element of SHH expression.

### Sequence similarities

Belongs to the hedgehog family.

### Post-translational modifications

The C-terminal domain displays an autoproteolysis activity and a cholesterol transferase activity. Both activities result in the cleavage of the full-length protein and covalent attachment of a cholesterol moiety to the C-terminal of the newly generated N-terminal fragment (N-product). The N-product is the active species in both local and long-range signaling, whereas the C-product has no signaling activity.

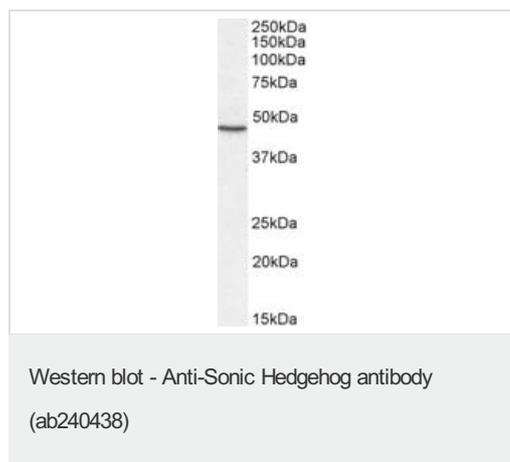
Cholesterylation is required for N-product targeting to lipid rafts and multimerization.

N-palmitoylation of Cys-24 by HHAT is required for N-product multimerization and full activity.

### Cellular localization

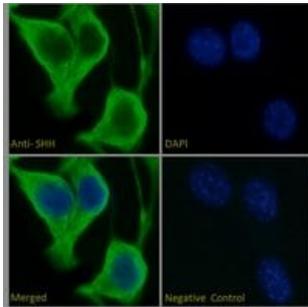
Cell membrane. The N-product either remains associated with lipid rafts at the cell surface, or forms freely diffusible active multimers with its hydrophobic lipid-modified N- and C-termini buried inside and Secreted > extracellular space. The C-terminal peptide diffuses from the cell.

## Images



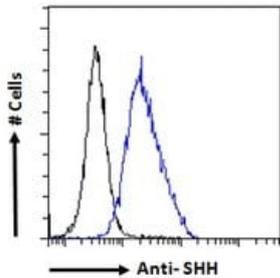
Anti-Sonic Hedgehog antibody (ab240438) at 2 µg/ml + Human liver tissue lysate (in RIPA buffer) at 35 µg

Developed using the ECL technique.



Immunocytochemistry/ Immunofluorescence - Anti-Sonic Hedgehog antibody (ab240438)

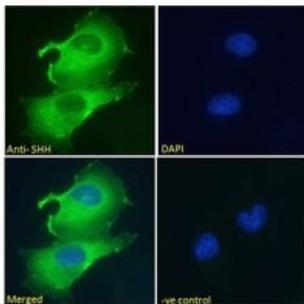
Immunofluorescence analysis of paraformaldehyde-fixed, 0.15% Triton permeabilized NIH/3T3 (mouse embryo fibroblast cell line) cells labeling Sonic Hedgehog (Green) using ab240438 in ICC/IF. Primary incubation for 1 hour (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing membrane staining. The nuclear stain is DAPI (Blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Flow Cytometry - Anti-Sonic Hedgehog antibody (ab240438)

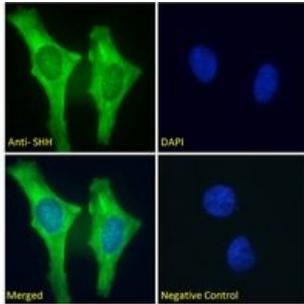
Flow cytometric analysis of paraformaldehyde-fixed, 0.5% Triton permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) labeling Sonic Hedgehog (blue line) with ab240438. Primary incubation for 1 hour at 10 µg/ml, followed by Alexa Fluor<sup>®</sup>488 secondary antibody (1 µg/ml).

IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor<sup>®</sup>488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Sonic Hedgehog antibody (ab240438)

Immunofluorescence analysis of paraformaldehyde-fixed, 0.15% Triton permeabilized U-251 MG (human brain glioma cell line) cells labeling Sonic Hedgehog (Green) using ab240438 in ICC/IF. Primary incubation for 1 hour (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing membrane staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Immunocytochemistry/ Immunofluorescence - Anti-Sonic Hedgehog antibody (ab240438)

Immunofluorescence analysis of paraformaldehyde-fixed, 0.15% Triton permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Sonic Hedgehog (Green) using ab240438 in ICC/IF. Primary incubation for 1 hour (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing membrane staining. The nuclear stain is DAPI (Blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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