SANTA CRUZ BIOTECHNOLOGY, INC.

Shh (G-5): sc-373779

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The *Drosophila* segment polarity gene hedgehog (hh) encodes a precursor protein which undergoes autocleavage to generate amino and carboxy terminal peptides. Both proteins are secreted and appear to function in embryonic and imaginal disc patterning. Several vertebrate homologs of *Drosophila* hh have been identified. These include Sonic hedgehog (Shh) (alternatively designated Vhh-1), Desert hedgehog (Dhh) and Indian hedgehog (Ihh). Each contain amino terminal signal peptides and apparently function as secreted proteins involved in the mediation of various cell-cell interactions. Shh resembles *Drosophila* hh in that it is processed to generate an amino terminal secreted peptide that is retained at or near the cell surface and a carboxy terminal glycosylated more diffusible peptide.

SOURCE

Shh (G-5) is a mouse monoclonal antibody raised against amino acids 41-200 of Shh of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Shh (G-5) is recommended for detection of a broad range of hedgehog family proteins of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Shh (G-5) is also recommended for detection of a broad range of hedgehog family proteins in additional species, including equine and canine.

Suitable for use as control antibody for Shh siRNA (h): sc-29477, Shh siRNA (m): sc-37205, Shh siRNA (r): sc-77337, Shh shRNA Plasmid (h): sc-29477-SH, Shh shRNA Plasmid (m): sc-37205-SH, Shh shRNA Plasmid (r): sc-77337-SH, Shh shRNA (h) Lentiviral Particles: sc-29477-V, Shh shRNA (m) Lentiviral Particles: sc-37205-V and Shh shRNA (r) Lentiviral Particles: sc-77337-V.

Molecular Weight of Shh precursor: 45 kDa.

Molecular Weight of Shh amino-terminal peptide: 19 kDa.

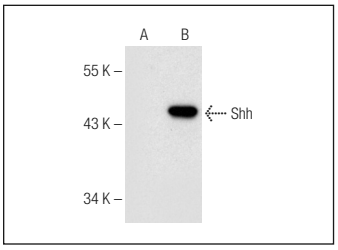
Molecular Weight of Shh carboxy-terminal peptide: 27 kDa.

Positive Controls: Shh (m): 293T Lysate: sc-123543, IMR-32 cell lysate: sc-2409 or F9 cell lysate: sc-2245.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Shh (G-5): sc-373779. Western blot analysis of Shh expression in non-transfected: sc-117752 (**A**) and mouse Shh transfected: sc-123543 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Jiang, W.G., et al. 2015. Expression of Sonic hedgehog (SHH) in human lung cancer and the impact of YangZheng XiaoJi on SHH-mediated biological function of lung cancer cells and tumor growth. Anticancer Res. 35: 1321-1331.
2. Suyama, K., et al. 2016. CD24 suppresses malignant phenotype by down-regulation of SHH transcription through STAT1 inhibition in breast cancer cells. Cancer Lett. 374: 44-53.
3. Zhang, R.Y., et al. 2018. Sonic hedgehog signaling regulates hypoxia/reoxygenation-induced H9C2 myocardial cell apoptosis. Exp. Ther. Med. 16: 4193-4200.
4. Asciolla, J.J. and Resh, M.D. 2019. Hedgehog acyltransferase promotes uptake of palmitoyl-CoA across the endoplasmic reticulum membrane. Cell Rep. 29: 4608-4619.e4.
5. Shao, S., et al. 2020. Cav-1 ablation in pancreatic stellate cells promotes pancreatic cancer growth through Nrf2-induced shh signaling. Oxid. Med. Cell Longev. 2020: 1868764.
6. Zhao, J., et al. 2022. CAFs-derived SCUBE1 promotes malignancy and stemness through the Shh/Gli1 pathway in hepatocellular carcinoma. J. Transl. Med. 20: 520.

CONJUGATES

See **Shh (E-1): sc-365112** for Shh antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.