SANTA CRUZ BIOTECHNOLOGY, INC.

Ihh (H-12): sc-271101

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.

CHROMOSOMAL LOCATION

Genetic locus: IHH (human) mapping to 2q35; Ihh (mouse) mapping to 1 C3.

SOURCE

Ihh (H-12) is a mouse monoclonal antibody raised against amino acids 228-315 of Ihh 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.

Ihh (H-12) is available conjugated to agarose (sc-271101 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271101 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271101 PE), fluorescein (sc-271101 FITC), Alexa Fluor® 488 (sc-271101 AF488), Alexa Fluor® 546 (sc-271101 AF546), Alexa Fluor® 594 (sc-271101 AF594) or Alexa Fluor® 647 (sc-271101 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271101 AF680) or Alexa Fluor® 790 (sc-271101 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Ihh (H-12) is recommended for detection of Ihh 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Ihh siRNA (h): sc-37206, Ihh siRNA (m): sc-37207, Ihh shRNA Plasmid (h): sc-37206-SH, Ihh shRNA Plasmid (m): sc-37207-SH, Ihh shRNA (h) Lentiviral Particles: sc-37206-V and Ihh shRNA (m) Lentiviral Particles: sc-37207-V.

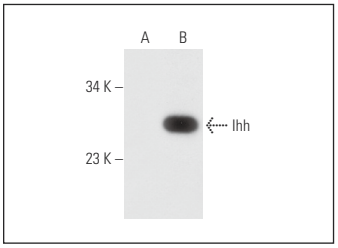
Molecular Weight of Ihh: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or Ihh (m): 293T Lysate: sc-121020.

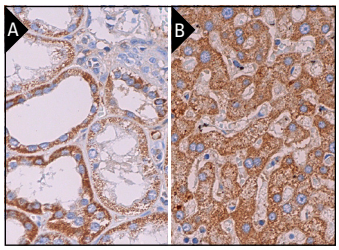
STORAGE

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

DATA



Ihh (H-12): sc-271101. Western blot analysis of Ihh expression in non-transfected: sc-117752 (**A**) and mouse Ihh transfected: sc-121020 (**B**) 293T whole cell lysates.



Ihh (H-12): sc-271101. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Yang, W., et al. 2020. Mechanoresponsive and lubricating changes of mandibular condylar cartilage associated with mandibular lateral shift and recovery in the growing rat. Clin. Oral Investig. 24: 3547-3557.
2. Fu, S., et al. 2021. Primary cilia as a biomarker in mesenchymal stem cells senescence: influencing osteoblastic differentiation potency associated with hedgehog signaling regulation. Stem Cells Int. 2021: 8850114.
3. Hsieh, Y.L., et al. 2021. Chondrocyte Tsc1 controls cranial base bone development by restraining the premature differentiation of synchondroses. Bone 153: 116142.
4. Li, X., et al. 2021. SAG therapy restores bone growth and reduces enchondroma incidence in a model of skeletal chondrodysplasias caused by Ihh deficiency. Mol. Ther. Methods Clin. Dev. 23: 461-475.
5. Shanmugam, D.A.S., et al. 2022. Maternal exposure to di(2-ethylhexyl) phthalate (DEHP) causes multigenerational adverse effects on the uterus of F_1 and F_2 offspring rats. Reprod. Toxicol. 115: 17-28.
6. Leović, M., et al. 2024. A pilot immunohistochemical study identifies hedgehog pathway expression in sinonasal adenocarcinoma. Int. J. Mol. Sci. 25: 4630.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.