SANTA CRUZ BIOTECHNOLOGY, INC.

Shh (C-18): sc-1195

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: SHH (human) mapping to 7q36.3; Shh (mouse) mapping to 5 B1.

SOURCE

Shh (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Shh of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1195 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

hh (C-18) is recommended for detection of the C-terminal subunit of Shh of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Dhh or Ihh.

Shh (C-18) is also recommended for detection of the C-terminal subunit of Shh in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Shh siRNA (h): sc-29477, Shh siRNA (m): sc-37205, Shh shRNA Plasmid (h): sc-29477-SH, Shh shRNA Plasmid (m): sc-37205-SH, Shh shRNA (h) Lentiviral Particles: sc-29477-V and Shh shRNA (m) Lentiviral Particles: sc-37205-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: IMR-32 cell lysate: sc-2409 or F9 cell lysate: sc-2245.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Thomas, M.K., et al. 2000. Hedgehog signaling regulation of Insulin production by pancreatic β-cells. Diabetes 49: 2039-2047.
2. Pola, R., et al. 2003. Postnatal recapitulation of embryonic hedgehog pathway in response to skeletal muscle ischemia. Circulation 108: 479-485.
3. Endo, H., et al. 2003. A possible paracrine hedgehog signalling pathway in neurofibromas from patients with neurofibromatosis type 1. Br. J. Dermatol. 148: 337-341.
4. Kimi, K., et al. 2003. Immunohistochemical and genetic analysis of mandibular cysts in heterozygous ptc knockout mice. J. Oral Pathol. Med. 32: 108-113.
5. Qualtrough, D., et al. 2004. Hedgehog signalling in colorectal tumour cells: induction of apoptosis with cyclopamine treatment. Int. J. Cancer 110: 831-837.
6. Podlasek, C.A., et al. 2007. Regulation of cavernous nerve injury-induced apoptosis by Sonic hedgehog. Biol. Reprod. 76: 19-28.
7. Gong, Q., et al. 2009. Olfactory sensory axon growth and branching is influenced by sonic hedgehog. Dev. Dyn. 238: 1768-1776.

RESEARCH USE

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

PROTOCOLS

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