

Shh (C-12): sc-33942

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.

REFERENCES

1. Echelard, Y., Epstein, D.J., St-Jacques, B., Shen, L., Mohler, J., McMahon, J.A. and McMahon, A.P. 1993. Sonic hedgehog, a member of a family of putative signaling molecules, is implicated in the regulation of CNS polarity. *Cell* 75: 1417-1430.
2. Li, W., Ohlmeyer, J.T., Lane, M.E. and Kalderon, D. 1995. Function of protein kinase A in hedgehog signal transduction and *Drosophila* imaginal disc development. *Cell* 80: 553-562.
3. Roelink, H., Porter, J.A., Chiang, C., Tanabe, Y., Chang, D.T., Beachy, P.A. and Jessell, T.M. 1995. Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of sonic hedgehog autoproteolysis. *Cell* 81: 445-455.
4. Fan, C.M., Porter, J.A., Chiang, C., Chang, D.T., Beachy, P.A. and Tessier-Lavigne, M. 1995. Long-range sclerotome induction by sonic hedgehog: direct role of the amino-terminal cleavage product and modulation by the cyclic AMP signaling pathway. *Cell* 81: 457-465.
5. Marti, E., Bumcrot, D.A., Takada, R. and McMahon, A.P. 1995. Requirement of 19K form of sonic hedgehog for induction of distinct ventral cell types in CNS explants. *Nature* 375: 322-325.

CHROMOSOMAL LOCATION

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

SOURCE

Shh (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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-33942 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Shh (C-12) 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-12) is also recommended for detection of the C-terminal subunit of Shh in additional species, including canine, bovine, porcine and avian.

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. Chen, Y., Li, X., Tian, L., Lui, V.C., Dallman, M.J., Lamb, J.R. and Tam, P.K. 2007. Inhibition of sonic hedgehog signaling reduces chronic rejection and prolongs allograft survival in a rat orthotopic small bowel transplantation model. *Transplantation* 83: 1351-1357.

STORAGE

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

PROTOCOLS

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


 MONOS
Satisfaction
Guaranteed

Try **Shh (E-1): sc-365112** or **Shh (G-5): sc-373779**, our highly recommended monoclonal alternatives to Shh (C-12). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Shh (E-1): sc-365112**.