

Shh (G-20): sc-33943

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

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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 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-33943 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 (G-20) 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 (G-20) 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.

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.



Try **Shh (E-1): sc-365112** or **Shh (G-5): sc-373779**, our highly recommended monoclonal alternatives to Shh (G-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Shh (E-1): sc-365112**.