



smoothened (dN-17): sc-15669

BACKGROUND

Drosophila melanogaster is a proven and effective model for studying developmental and cellular processes common to higher eukaryotes. Approximately 13,600 genes have been elucidated from more than 120 megabases of euchromatin, and they are organized among the chromosomes 2, 3, 4, X and Y, with the Y chromosome being predominately heterochromatic. *Drosophila* genes can be categorized based on the type of protein for which they encode and are represented by six major classifications, which include intracellular signaling proteins, transmembrane proteins, RNA binding proteins, secreted factors, transcription regulators (basic helix-loop-helix, homeodomain containing, zinc finger containing, and chromatin associated) or other functional proteins. Among these numerous proteins, smoothened is a seven transmembrane domain containing, G protein-coupled receptor that is required for correct segment patterning during development and may function as a receptor for the hedgehog ligand.

REFERENCES

- Alcedo, J., Ayzenzon, M., Von Ohlen, T., Noll, M. and Hooper, J.E. 1996. The *Drosophila* smoothened gene encodes a seven-pass membrane protein, a putative receptor for the hedgehog signal. *Cell* 86: 221-232.
- van den Heuvel, M. and Ingham, P.W. 1996. Smoothened encodes a receptor-like serpentine protein required for hedgehog signalling. *Nature* 382: 547-551.
- Quirk, J., van den Heuvel, M., Henrique, D., Marigo, V., Jones, T.A., Tabin, C. and Ingham, P.W. 1997. The smoothened gene and hedgehog signal transduction in *Drosophila* and vertebrate development. *Cold Spring Harb. Symp. Quant. Biol.* 62: 217-226.
- Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D., Amanatides, P., et al. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2295.
- The Interactive Fly. <http://www.sdbonline.org/fly/aimain/1aahome.htm>.
<http://www.sdbonline.org/fly/aimain/6biochem.htm>.
- LocusLink Report (LocusID: 33196). <http://www.ncbi.nlm.nih.gov/LocusLink/>

SOURCE

smoothened (dN-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of smoothened of *Drosophila melanogaster* 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-15669 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

smoothened (dN-17) is recommended for detection of smoothened of *Drosophila melanogaster* 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).

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

- Ogden, S.K., et al. 2003. Identification of a functional interaction between the transmembrane protein smoothened and the Kinesin-related protein Costal2. *Curr. Biol.* 13: 1998-2003.

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.