SANTA CRUZ BIOTECHNOLOGY, INC.

Shaker (dF-17): sc-21610

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. The *Drosophila* Shaker family of potassium channels are generated from alternatively spliced transcripts of the same gene, located on chromosome 1. Shaker potassium channels have a high voltage sensitivity and mediate a large gating charge movement through seven positively charged residues, which produces gating currents. The alternative splicing of Shaker transcripts derived from the same gene provide a wide selection of channels whose voltage-dependence and kinetics can be tailored to the needs of a specific cell.

REFERENCES

1. Kaczmarek, L.K. 1991. Voltage-dependent potassium channels: minK and Shaker families. New Biol. 3: 315-323.
2. Salkoff, L., et al. 1992. An essential "set" of K^+ channels conserved in flies, mice and humans. Trends Neurosci. 15: 161-166.
3. Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. Science 287: 2185-295.
4. Fedida, D., et al. 2001. Gating of voltage-dependent potassium channels. Prog. Biophys. Mol. Biol. 75: 165-199.
5. LocusLink Report (LocusID: 32780). http://www.ncbi.nlm.nih.gov/LocusLink/
6. The Interactive Fly. http://sdb.bio.purdue.edu/fly/aimain/1aahome.htm. http://sdb.bio.purdue.edu/fly/aimain/6biochem.htm.

SOURCE

Shaker (dF-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Shaker 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-21610 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

Shaker (dF-17) is recommended for detection of Shaker 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.

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.