



## Fat (dR-18): sc-26901

### 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. Fat, an atypical cadherin, contains a putative signal sequence, 34 tandem cadherin domains, four EGF-like repeats, a transmembrane domain, and a novel cytoplasmic domain. Fat controls both cell growth and planar polarity, including mediating the proper orientation of wing hairs and ommatidia in the eye.

### REFERENCES

1. Mahoney, P.A., Weber, U., Onofrechuk, P., Biessmann, H., Bryant, P.J., and Goodman, C.S. 1991. The Fat tumor suppressor gene in *Drosophila* encodes a novel member of the cadherin gene superfamily. *Cell* 67: 853-868.
2. Tepass, U. 1999. Genetic analysis of cadherin function in animal morphogenesis. *Curr. Opin. Cell. Biol.* 11: 540-548.
3. 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: 2185-2195.
4. Yang, C.H., Axelrod, J.D., and Simon, M.A. 2002. Regulation of frizzled by Fat-like cadherins during planar polarity signaling in the *Drosophila* compound eye. *Cell* 108: 675-688.
5. Fanto, M., Clayton, L., Meredith, J., Hardiman, K., Charroux, B., Kerridge, S., and McNeill, H. 2003. The tumor-suppressor and cell adhesion molecule Fat controls planar polarity via physical interactions with Atrophin, a transcriptional co-repressor. *Development* 130: 763-774.
6. Ma, D., Yang, C.H., McNeill, H., Simon, M.A., and Axelrod, J.D. 2003. Fidelity in planar cell polarity signalling. *Nature* 421: 543-547.
7. The Interactive Fly. <http://www.sdbonline.org/fly/aimain/1aahome.htm>. <http://www.sdbonline.org/fly/aimain/6biochem.htm>

### SOURCE

Fat (dR-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Fat 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-26901 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Fat (dR-18) is recommended for detection of Fat 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.

### STORAGE

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

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.