

# Stat (dN-17): sc-15708

## 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. Many of the genes expressed in *Drosophila* are structurally and functionally similar across species, as are the pathways involved in transducing intracellular signaling. Marelle (Stat, Signal-transducer and activator of transcription protein) is an SH2 domain-containing, invertebrate homolog of the mammalian Stat transcription factor.

## REFERENCES

- Hou, X.S., et al. 1996. Marelle acts downstream of the *Drosophila* HOP/JAK kinase and encodes a protein similar to the mammalian Stats. *Cell* 84: 411-449.
- Yan, R., et al. 1996. Identification of a Stat gene that functions in *Drosophila* development. *Cell* 84: 421-430.
- Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2195.
- The Interactive Fly. <http://sdb.bio.purdue.edu/fly/aimain/1aahome.htm>.  
<http://sdb.bio.purdue.edu/fly/gene/marelle.htm>

## SOURCE

Stat (dN-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Stat 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-15708 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.

## 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.

## APPLICATIONS

Stat (dN-17) is recommended for detection of Stat of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

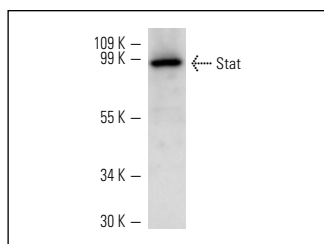
Molecular Weight of Stat: 91 kDa.

Positive Controls: Schneider's *Drosophila* line 2 whole cell lysate.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Stat (dN-17): sc-15708. Western blot analysis of Stat expression in Schneider's *Drosophila* line 2 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Shi, S., et al. 2008. *Drosophila* Stat is required for directly maintaining HP1 localization and heterochromatin stability. *Nat. Cell Biol.* 10: 489-496.
- Kallio, J., et al. 2010. Eye transformer is a negative regulator of *Drosophila* JAK/STAT signaling. *FASEB J.* 24: 4467-4479.
- Tsurumi, A., et al. 2011. STAT is an essential activator of the zygotic genome in the early *Drosophila* embryo. *PLoS Genet.* 7: e1002086.