

Misato (122.321): sc-13568

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 Misato gene encodes a protein that contains a mixture of peptide motifs found in α -, β - and γ -tubulins, as well as a motif related to part of the Myosin heavy chain proteins. Null mutations at the Misato locus of *Drosophila melanogaster* are associated with irregular chromosomal segregation at cell division and result in larvae that have reduced levels of imaginal disk tissue, a reduction in brain size and die during the larval stage of development.

REFERENCES

1. Miklos, G.L., Yamamoto, M., Burns, R.G. and Maleszka, R. 1997. An essential cell division gene of *Drosophila*, absent from *Saccharomyces*, encodes an unusual protein with Tubulin-like and Myosin-like peptide motifs. Proc. Natl. Acad. Sci. USA 94: 5189-5194.
2. Nogales, E., Wolf, S.G. and Downing, K.H. 1998. Structure of the α -, β -Tubulin dimer by electron crystallography. Nature 391: 199-203.
3. Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D., Amanatides, P., Scherer, S.E., Li, P.W., Hoskins, R.A., Galle, R.F., George, R.A., Lewis, S.E., Richards, S., Ashburner, M., Henderson, S.N., et al. 2000. The genome sequence of *Drosophila melanogaster*. Science 287: 2185-2195.
4. The Interactive Fly. <http://www.sdbonline.org/fly/aimain/1aahome.htm>.
<http://www.sdbonline.org/fly/aimain/6biochem.htm>.
5. LocusLink Report (LocusID: 33119). <http://www.ncbi.nlm.nih.gov/LocusLink/>

SOURCE

Misato (122.321) is a mouse monoclonal antibody raised against recombinant Misato protein of *Drosophila* origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

Misato (122.321) is recommended for detection of Misato of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

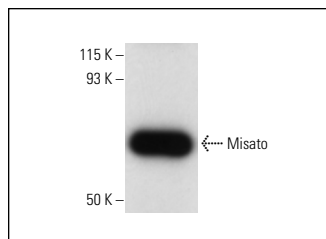
Molecular Weight of Misato: 62 kDa.

Positive Controls: Schneider's *Drosophila* line 2 whole cell lysate: sc-364794.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Misato (122.321): sc-13568. Western blot analysis of Misato expression in Schneider's *Drosophila* line 2.

SELECT PRODUCT CITATIONS

1. Huei, T.J., Lip, H.T., Rahman, M.S. and Sarojah, A. 2017. Large adrenal leiomyoma presented as adrenal incidentaloma in an AIDS patient: a rare entity. Med. J. Malaysia 72: 65-67.
2. Min, S., Yoon, W., Cho, H. and Chung, J. 2017. Misato underlies visceral myopathy in *Drosophila*. Sci. Rep. 7: 17700.

RESEARCH USE

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