

FMR1 (dC-15): sc-26900

BACKGROUND

Drosophila melanogaster, a proven and effective model for studying developmental and cellular processes common to higher eukaryotes, contains a genome encoding approximately 13,600 genes, which were elucidated from more than 120 megabases of euchromatin. These genes are organized among chromosomes 2, 3, 4, X, and Y, with the Y chromosome being predominately heterochromatic. *Drosophila* genes, which are categorized based on the type of protein for which they encode, represent six major classifications, including intracellular signaling proteins, transmembrane proteins, RNA binding proteins, secreted factors, transcription regulators (basic helix-loop-helix, homeodomain containing, zinc finger containing, and chromatin associated), and other functional proteins. FMR1, a protein highly expressed in muscles, the central nervous system, and gonads, binds RNA and associates with polysomes in the cytoplasm. It negatively regulates gene expression at the posttranscriptional level, and phosphorylation of FMR1 modulates its ability to homomerize and bind RNA. Loss of FMR1 leads to fragile X syndrome, the most common form of inherited mental retardation.

REFERENCES

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- Schenck, A., Van de Bor, V., Bardoni, B. and Giangrande, A. 2002. Novel features of dFMR1, the *Drosophila* orthologue of the fragile X mental retardation protein. *Neurobiol. Dis.* 11: 53-63.
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- Ishizuka, A., Siomi, M.C. and Siomi, H. 2002. A *Drosophila* fragile X protein interacts with components of RNAi and ribosomal proteins. *Genes Dev.* 16: 2497-508.
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- Dockendorff, T.C., Su, H.S., McBride, S.M., Yang, Z., Choi, C.H., Siwicki, K.K., Sehgal, A. and Jongens, T.A. 2002. *Drosophila* lacking dFMR1 activity show defects in circadian output and fail to maintain courtship interest. *Neuron* 34: 973-84.

SOURCE

FMR1 (dC-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of FMR1 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-26900 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FMR1 (dC-15) is recommended for detection of FMR1 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).

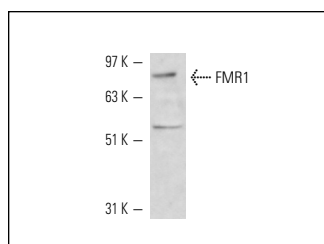
Molecular Weight of FMR1: 85 kDa.

Positive Controls: *Drosophila* 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



FMR1 (dC-15): sc-26900. Western blot analysis of FMR1 expression in *Drosophila* whole cell lysate.

SELECT PRODUCT CITATIONS

- Farny, N.G., Kedersha, N.L. and Silver, P.A. 2009. Metazoan stress granule assembly is mediated by P-eIF2 α -dependent and -independent mechanisms. *RNA* 15: 1814-1821.

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 or our catalog for detailed protocols and support products.