

MOF (m): 293T Lysate: sc-127160

BACKGROUND

Dosage compensation ensures that males with a single X chromosome and females with two X chromosomes have the same amount of most X-linked gene products. In *Drosophila*, this is achieved by enhancing the level of transcription of the X chromosome in males. Proteins such as maleless, male specific lethal 1, 2 and 3, and males absent on the first (MOF) form a dosage compensation complex (DCC) that is required for the twofold increase of transcription of the male X chromosome. The DCC is preferentially associated with many sites on the X chromosome in somatic cells of males. The binding of the DCC to the X chromosome is dependent upon histone 4 acetylation at lysine 16, which is accomplished by MOF. In mammals, MOF (also designated hMOF, MYST1, or MOZ) belongs to the MYST family of histone acetyltransferases which are characterized by a unique C2HC-type zinc finger close to their HAT domains. MOF utilizes the zinc finger domain to contact the globular part of the nucleosome as well as the histone H4 N-terminal tail substrate. The carboxy terminal domain of human MOF also has histone acetyltransferase activity directed against histones H3 and H2A, a characteristic shared with other MYST family histone acetyltransferases.

REFERENCES

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2. Gu, W., et al. 1998. Targeting of MOF, a putative histone acetyltransferase, to the X chromosome of *Drosophila melanogaster*. Dev. Genet. 22: 56-64.
3. Akhtar, A., et al. 2000. Chromodomains are protein-RNA interaction modules. Nature 407: 405-409.
4. Sterner, D.E., et al. 2000. Acetylation of histones and transcription-related factors. Microbiol. Mol. Biol. Rev. 64: 435-459.
5. Neal, K.C., et al. 2000. A new human member of the MYST family of histone acetyltransferases with high sequence similarity to *Drosophila* MOF. Biochim. Biophys. Acta 1490: 170-174.
6. Akhtar, A. and Becker, P.B. 2000. Activation of transcription through histone H4 acetylation by MOF, an acetyltransferase essential for dosage compensation in *Drosophila*. Mol. Cell 5: 367-375.
7. Akhtar, A., et al. 2001. The Histone H4 acetyltransferase MOF uses a C2HC zinc finger for substrate recognition. EMBO Rep. 2: 113-118.

CHROMOSOMAL LOCATION

Genetic locus: Kat8 (mouse) mapping to 7 F3.

PRODUCT

MOF (m): 293T Lysate represents a lysate of mouse MOF transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

MOF (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MOF antibodies. Recommended use: 10-20 µl per lane.

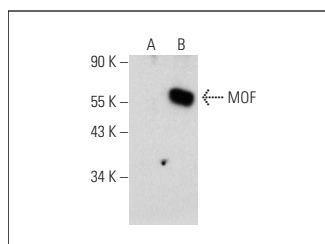
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MOF (G-12): sc-271691 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MOF expression in MOF transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



MOF (G-12): sc-271691. Western blot analysis of MOF expression in non-transfected: sc-117752 (A) and mouse MOF transfected: sc-127160 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.