SANTA CRUZ BIOTECHNOLOGY, INC.

MOF (8C4C4): sc-81163

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 acheived 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 acetyl transferases 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

1. Hilfiker, A., et al. 1997. MOF, a putative acetyl transferase gene related to the Tip60 and MOZ human genes and to the SAS genes of yeast, is required for dosage compensation in *Drosophila*. EMBO J. 16: 2054-2060.
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.

CHROMOSOMAL LOCATION

Genetic locus: KAT8 (human) mapping to 16p11.2; Kat8 (mouse) mapping to 7 F3.

SOURCE

MOF (8C4C4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 132-283 of MOF (MYST1) of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MOF (8C4C4) is available conjugated to agarose (sc-81163 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-81163 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81163 PE), fluorescein (sc-81163 FITC), Alexa Fluor® 488 (sc-81163 AF488), Alexa Fluor® 546 (sc-81163 AF546), Alexa Fluor® 594 (sc-81163 AF594) or Alexa Fluor® 647 (sc-81163 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81163 AF680) or Alexa Fluor® 790 (sc-81163 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

MOF (8C4C4) is recommended for detection of MOF of mouse, rat and human 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MOF siRNA (h): sc-37129, MOF siRNA (m): sc-37130, MOF shRNA Plasmid (h): sc-37129-SH, MOF shRNA Plasmid (m): sc-37130-SH, MOF shRNA (h) Lentiviral Particles: sc-37129-V and MOF shRNA (m) Lentiviral Particles: sc-37130-V.

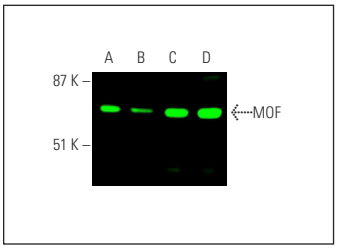
Molecular Weight of MOF: 58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, COLO 320DM cell lysate: sc-2226 or Caki-1 cell lysate: sc-2224.

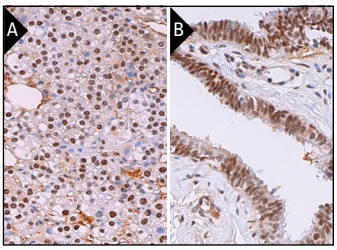
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MOF (8C4C4): sc-81163. Near-infrared western blot analysis of MOF expression in HeLa (**A**), Caki-1 (**B**), K-562 (**C**) and COLO 320DM (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



MOF (8C4C4): sc-81163. Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland (**A**) and human fallopian tube (**B**) tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. González, B., et al. 2020. Dopamine receptor D1 contributes to cocaine epigenetic reprogramming of histone modifications in male germ cells. Front. Cell Dev. Biol. 8: 216.

STORAGE

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