

# MOF (G-12): sc-271691

## 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 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

MOF (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 39-73 near the N-terminus of MOF of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271691 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MOF (G-12) is recommended for detection of MOF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

MOF (G-12) is also recommended for detection of MOF in additional species, including equine, canine, bovine and porcine.

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.

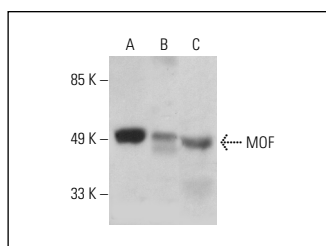
Molecular Weight of MOF: 58 kDa.

Positive Controls: MOF (m): 293T Lysate: sc-127160, Hep G2 cell lysate: sc-2227 or Caki-1 cell lysate: sc-2224.

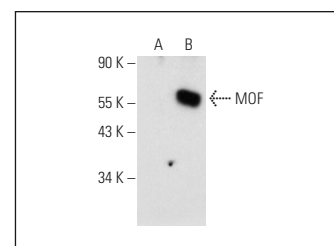
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



MOF (G-12): sc-271691. Western blot analysis of MOF expression in SK-N-MC (A), Caki-1 (B) and Hep G2 (C) whole cell lysates.



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.

## SELECT PRODUCT CITATIONS

- Sanders, Y.Y., et al. 2013. Histone modifications in senescence-associated resistance to apoptosis by oxidative stress. *Redox Biol.* 1: 8-16.
- Zhang, Z., et al. 2015. Interferon regulatory factor 1 marks activated genes and can induce target gene expression in systemic lupus erythematosus. *Arthritis Rheumatol.* 67: 785-796.
- Sanders, Y.Y., et al. 2015. Epigenetic mechanisms regulate NADPH oxidase-4 expression in cellular senescence. *Free Radic. Biol. Med.* 79: 197-205.
- Ferreira Solari, N.E., et al. 2016. The NSL chromatin-modifying complex subunit KANSL2 regulates cancer stem-like properties in glioblastoma that contribute to tumorigenesis. *Cancer Res.* 76: 5383-5394.
- Yakhine-Diop, S.M.S., et al. 2019. Impaired mitophagy and protein acetylation levels in fibroblasts from Parkinson's disease patients. *Mol. Neurobiol.* 56: 2466-2481.

## 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) for detailed protocols and support products.