MOF/MYST1 Antibody

Cat. No. CP10179

Applications:	**WB, IHC, ICC**
Detected MW:	**53 kDa**
Species & Reactivity:	**Human**
Isotype:	**Mouse IgG2b**

BACKGROUND

The MYST proteins, characterized by a highly conserved acetyltransferase domain, are involved in a wide range of physiological processes in mammals, ranging from the development of the nervous system to that of the hematopoietic system. Mof (males absent on the first; also called MYST1 or KAT8) is one of the five mammalian MYST family histone acetyltransferases. Mof has an amino-terminal chromodomain, reported to bind noncoding RNA, and a central MYST histone acetyltransferase domain. This domain structure is identical to that of Tip60 (human immunodeficiency virus Tat-interacting protein 60), and together, Mof and Tip60 form a subclass of MYST histone acetyltransferases.[1]

In mammalian cell culture systems, a variety of different activities have been ascribed to Mof, including roles in cell cycle regulation and response to DNA repair. Mof can acetylate ATM, a protein with a key role in cell cycle checkpoint control, and through acetylation, modify its activity. Moreover, Mof can acetylate p53 at lysine 120, and this activity is important in directing the cell into an apoptotic pathway via the induction of *Bax* and *Puma* gene expression by p53, at least in H1299 cells. Another function ascribed to Mof is to enhance transcription as a coactivator for the trithorax group protein MLL in inducing the expression of the *Hoxa9* gene. This action at a specific locus would mean that Mof may have distinctly different molecular roles in mammalian cells from those in insect cells, namely, effects on specific loci versus large regions of the genome, such as the male X chromosome.[2]

In mammals, the *Mof* gene is ubiquitously expressed, and most tissues have similar, modest levels of expression. Exceptionally high levels of expression are found in the testis. *Mof* is expressed in both proliferating and postmitotic cells and, during development, does not appear to be restricted to regions with high levels of apoptosis or restricted to cells progressing through the cell cycle. The wide range of cellular processes that were reported to be affected by Mof, together with ubiquitous expression of the *Mof* gene, suggests that Mof is a multifunctional protein. A major biochemical role of Mof in *Drosophila* and mammalian cells is histone 4 lysine 16 (H4K16) acetylation. It was shown that *Mof* mutant embryos first lack acetylation specifically on H4K16 and then show abnormal chromatin morphology before finally undergoing death by apoptosis.[3]

References:

1. Avvakumov, N. & Cote, J. : Oncogene 26:5395-5407, 2007
2. Rea, S. et al: Oncogene 26:5385-94, 2007
3. Yang, X.J.: Neucleic Acid Res. 32:959-76, 2004

TECHNICAL INFORMATION

Source:
MOF Antibody is a mouse monoclonal antibody raised against purified recombinant human MOF fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects endogenous MOF proteins without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	1:200
ICC	1:200
FACS	n/d

**Optimal dilutions must be determined by end user.*

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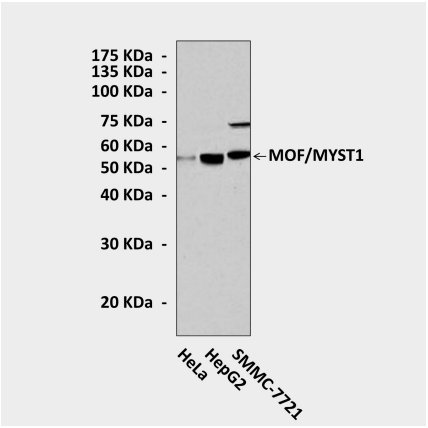
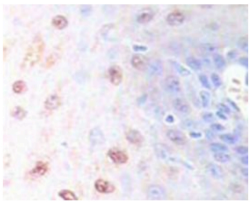
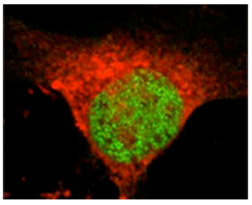
QUALITY CONTROL DATA







Top: Western Blot detection of MOF proteins in various cell lysates using MOF Antibody. **Middle:** This antibody stains paraffin-embedded human rectum cancer tissue in immunohistochemical analysis. **Bottom:** It also stains Eca109 cells in confocal immunofluorescent testing (MOF antibody: Green; Actin filaments: Red).