

Pr-Set7 monoclonal antibody

Catalog: MB67220

Host: Mouse

Reactivity: Human

BackGround:

SET domain-containing lysine methyltransferase 8 (SET8), also known as PR/SET domain-containing protein 7 (PR/SET7), is a member of a family of histone lysine methyltransferases, each of which contains a conserved catalytic SET domain originally identified in *Drosophila* Su[var]3-9, Enhancer of zeste, and Trithorax proteins. SET8 is a single-subunit enzyme that mono-methylates histone H4 on Lys20, preferably on nucleosomal substrates. SET8 protein levels and Histone H4 Lys20 methylation are cell cycle regulated, both increasing in S phase and peaking at G2/M phase. SET8 interacts with the PCNA protein, associates with sites of active DNA synthesis, and is required for DNA replication and genome stability during S phase. Inhibition of SET8 using shRNA or siRNA results in arrest of replication forks, induction of double-stranded DNA breaks, and a Chk1-mediated cell-cycle arrest in S and G2/M phases of the cell cycle. Furthermore, SET8 methylates p53 on Lys382, down regulating the pro-apoptotic and checkpoint activation functions of p53. In response to DNA damage, SET8 expression levels decrease, allowing p53 to activate checkpoints and/or apoptosis. Both the methylation of histone H4 Lys20 and p53 appear to be important for the functions of SET8 in S phase.

Product:

Mouse IgG1. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 60 kDa

Swiss-Prot:

Q9NQR1

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/200), IF/ICC (1/10 -

1/50)

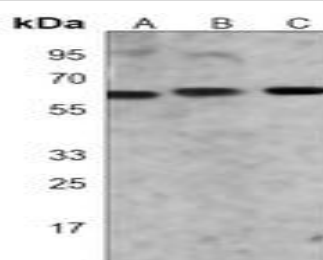
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

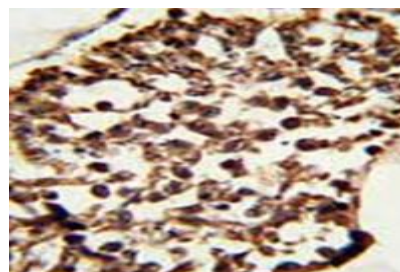
Specificity:

Recognizes endogenous levels of Pr-Set7 protein.

DATA:



Western blot analysis of Pr-Set7 expression in 293T (A), 293 (B), K562 (C) whole cell lysates.



Immunohistochemical analysis of Pr-Set7 staining in human testis formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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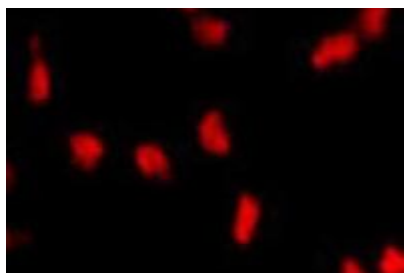
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PRODUCT DATA SHEET

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Immunofluorescent analysis of Pr-Set7 staining in Hela cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF594-conjugated

secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

Note:

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

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