

SETMAR (S-12): sc-103212

BACKGROUND

SETMAR (SET domain and mariner transposase fusion gene-containing protein), also known as METNASE or Hsmar1, is a ubiquitously expressed fusion protein with histone-lysine N-methyltransferase activity and DNA-binding, DNA-looping and DNA-cleavage activities. Localizing to the nucleus, SETMAR contains one N-terminal SET domain which facilitates the histone-lysine methyltransferase activity (at H3-Lys4 and H3-Lys36) and a C-terminal transposase domain which is responsible for the DNA-binding, -looping and -cleavage activities. Both domains are essential for the proper function of SETMAR. SETMAR specifically functions in DNA repair but, on its own, SETMAR can only bind to 5'-TIR (terminal inverted repeats) in DNA. For interactions with non-TIR DNA, SETMAR (via its SET domain) binds to and forms a stable complex with the pre-mRNA processing protein PRP19. Due to alternative splicing events, two isoforms exist.

REFERENCES

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- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609834. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Higgins, J.J., et al. 2004. Candidate genes for recessive non-syndromic mental retardation on chromosome 3p (MRT2A). *Clin. Genet.* 65: 496-500.
- Lee, S.H., et al. 2005. The SET domain protein Metnase mediates foreign DNA integration and links integration to nonhomologous end-joining repair. *Proc. Natl. Acad. Sci. USA* 102: 18075-18080.
- Cordaux, R., et al. 2006. Birth of a chimeric primate gene by capture of the transposase gene from a mobile element. *Proc. Natl. Acad. Sci. USA* 103: 8101-8106.
- Roman, Y., et al. 2007. Biochemical characterization of a SET and transposase fusion protein, Metnase: its DNA binding and DNA cleavage activity. *Biochemistry* 46: 11369-11376.

CHROMOSOMAL LOCATION

Genetic locus: SETMAR (human) mapping to 3p26.1; Setmar (mouse) mapping to 6 E1.

SOURCE

SETMAR (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SETMAR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103212 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-103212 X, 100 µg/0.1 ml.

APPLICATIONS

SETMAR (S-12) is recommended for detection of SETMAR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SETMAR (S-12) is also recommended for detection of SETMAR in additional species, including bovine and porcine.

Suitable for use as control antibody for SETMAR siRNA (h): sc-78354, SETMAR siRNA (m): sc-153388, SETMAR shRNA Plasmid (h): sc-78354-SH, SETMAR shRNA Plasmid (m): sc-153388-SH, SETMAR shRNA (h) Lentiviral Particles: sc-78354-V and SETMAR shRNA (m) Lentiviral Particles: sc-153388-V.

SETMAR (S-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of human SETMAR: 78 kDa.

Molecular Weight of mouse SETMAR: 35 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.



Try **SETMAR (A-12): sc-515243**, our highly recommended monoclonal alternative to SETMAR (S-12).