

ATMIN (E-12): sc-373833



The Power to Question

BACKGROUND

ATMIN (ATM/ATR-substrate Chk2-interacting Zn²⁺-finger protein) is a DNA damage response protein. It functions as a scaffold protein in the lesion-specific Rad51 focus forming pathway. In response to DNA methylating agents and persistent single stranded DNA gaps, ATMIN forms Rad51-containing foci for DNA repair. The ATMIN foci are MLH1-dependent. ATMIN is similar in structure and function to Mdt1. It consists of an N-terminal nucleic acid binding domain, a nuclear localization signal and a C-terminal SQ/TQ cluster domain (SCD). ATMIN interacts with the Forkhead-associated (FHA) domain of Chk2 via its SCD and may be a substrate for ATM/ATR kinase. A lack in functional ATMIN results in impaired Rad51 focus formation and leads to increased DNA damage-induced apoptosis.

REFERENCES

1. Ishikawa, K., et al. 1997. Prediction of the coding sequences of unidentified human genes. VIII. 78 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 4: 307-313.
2. Pike, B.L., et al. 2004. Mdt1, a novel Rad53 FHA1 domain-interacting protein, modulates DNA damage tolerance and G₂/M cell cycle progression in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 24: 2779-2788.
3. Traven, A. and Heierhorst, J. 2005. SQ/TQ cluster domains: concentrated ATM/ATR kinase phosphorylation site regions in DNA-damage-response proteins. Bioessays 27: 397-407.
4. McNees, C.J., et al. 2005. ASCIZ regulates lesion-specific Rad51 focus formation and apoptosis after methylating DNA damage. EMBO J. 24: 2447-2457.

CHROMOSOMAL LOCATION

Genetic locus: ATMIN (human) mapping to 16q23.2; Atmin (mouse) mapping to 8 E1.

SOURCE

ATMIN (E-12) is a mouse monoclonal antibody raised against amino acids 581-823 mapping at the C-terminus of ATMIN of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ATMIN (E-12) is available conjugated to agarose (sc-373833 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373833 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373833 PE), fluorescein (sc-373833 FITC), Alexa Fluor[®] 488 (sc-373833 AF488), Alexa Fluor[®] 546 (sc-373833 AF546), Alexa Fluor[®] 594 (sc-373833 AF594) or Alexa Fluor[®] 647 (sc-373833 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373833 AF680) or Alexa Fluor[®] 790 (sc-373833 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

ATMIN (E-12) is recommended for detection of ATMIN 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).

Suitable for use as control antibody for ATMIN siRNA (h): sc-105098, ATMIN siRNA (m): sc-141330, ATMIN shRNA Plasmid (h): sc-105098-SH, ATMIN shRNA Plasmid (m): sc-141330-SH, ATMIN shRNA (h) Lentiviral Particles: sc-105098-V and ATMIN shRNA (m) Lentiviral Particles: sc-141330-V.

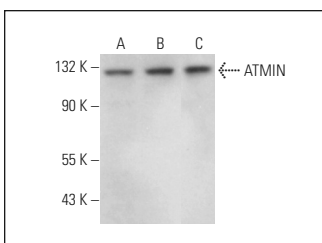
Molecular Weight of ATMIN: 115 kDa.

Positive Controls: JAR cell lysate: sc-2276, HeLa whole cell lysate: sc-2200 or PC-3 nuclear extract: sc-2152.

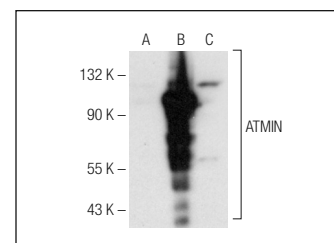
RECOMMENDED SUPPORT REAGENTS

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



ATMIN (E-12): sc-373833. Western blot analysis of ATMIN expression in JAR (A), HeLa (B) and F9 (C) whole cell lysates.



ATMIN (E-12): sc-373833. Western blot analysis of ATMIN expression in non transfected (A) and human ATMIN transfected (B) 293T whole cell lysates and PC-3 nuclear extract (C).

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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