

# ATMIN (H-243): sc-67314

## BACKGROUND

ATMIN (ATM/ATR-substrate Chk2-interacting Zn<sup>2+</sup>-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., Nagase, T., Nakajima, D., Seki, N., Ohira, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. 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., Yongkiettrakul, S., Tsai, M.D. and Heierhorst, J. 2004. Mdt1, a novel Rad53 FHA1 domain-interacting protein, modulates DNA damage tolerance and G<sub>2</sub>/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., Conlan, L.A., Tennis, N. and Heierhorst, J. 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 (H-243) is a rabbit polyclonal antibody raised against amino acids 581-823 mapping at the C-terminus of ATMIN 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

ATMIN (H-243) is recommended for detection of ATMIN of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

ATMIN (H-243) is also recommended for detection of ATMIN in additional species, including equine and bovine.

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.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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


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Try **ATMIN (E-12): sc-373833** or **ATMIN (B-1): sc-373834**, our highly recommended monoclonal alternatives to ATMIN (H-243).