

ATMIN (E-20): sc-51464

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., 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 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., 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.

SOURCE

ATMIN (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-51464 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-51464 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

ATMIN (E-20) is recommended for detection of ATMIN of 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 (E-20) is also recommended for detection of ATMIN in additional species, including equine, canine, bovine and avian.

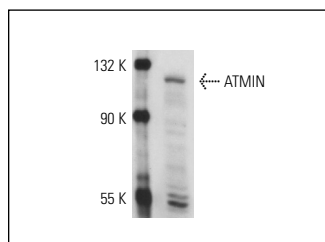
Suitable for use as control antibody for ATMIN siRNA (h): sc-105098, ATMIN shRNA Plasmid (h): sc-105098-SH and ATMIN shRNA (h) Lentiviral Particles: sc-105098-V.

ATMIN (E-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ATMIN: 115 kDa.

Positive Controls: JAR cell lysate: sc-2276.

DATA



ATMIN (E-20): sc-51464. Western blot analysis of ATMIN expression in JAR whole cell lysates.

PROTOCOLS

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

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Try **ATMIN (E-12): sc-373833** or **ATMIN (B-1): sc-373834**, our highly recommended monoclonal alternatives to ATMIN (E-20).