SANTA CRUZ BIOTECHNOLOGY, INC.

ATMIN (C-20): sc-51462

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ATMIN (ATM/ATR-substrate Chk2-interacting Zn^{2+}-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. 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., et al. 2004. Mdt1, a novel Rad53 FHA1 domain-interacting protein, modulates DNA damage tolerance and G_2/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.

SOURCE

ATMIN (C-20) is an affinity purified goat polyclonal antibody raised against a peptide 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-51462 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-51462 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.

PROTOCOLS

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

APPLICATIONS

ATMIN (C-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).

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

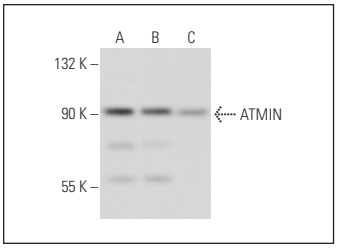
Molecular Weight of ATMIN: 115 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ATMIN (C-20): sc-51462. Western blot analysis of ATMIN expression in HEK293 (**A**), HeLa (**B**) and K-562 (**C**) whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

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