SANTA CRUZ BIOTECHNOLOGY, INC.

Atm (1A1): sc-73615

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The phosphatidylinositol kinase (PIK) family members fall into two distinct subgroups. The first subgroup contains proteins such as the PI 3- and PI 4-kinases and the second group comprises the PIK-related kinases. The PIK-related kinases include Atm, DNA-PK_{CS} and FRAP. These proteins have in common a region of homology at their carboxy-termini that is not present in the PI 3- and PI 4-kinases. The Atm gene is mutated in the autosomal recessive disorder ataxia telangiectasia (AT) that is characterized by cerebellar degeneration (ataxia) and the appearance of dilated blood vessels (telangiec-tases) in the conjunctivae of the eyes. AT cells are hypersensitive to ionizing radiation, impaired in mediating the inhibition of DNA synthesis and display delays in p53 induction.

REFERENCES

1. Hartley, K.O., et al. 1995. DNA-dependent protein kinase catalytic subunit: a relative of phosphatidylinositol 3-kinase and the ataxia telangiectasia gene product. Cell 82: 849-856.
2. Nowak, R. 1995. Discovery of AT gene sparks biomedical research bonanza. Science 268: 1700-1701.
3. Savitsky, K., et al. 1995. A single ataxia telangiectasia gene with a product similar to PI 3-kinase. Science 268: 1749-1753.
4. Keith, C.T., et al. 1995. PIK-related kinases: DNA repair, recombination, and cell cycle checkpoints. Science 270: 50-51.

CHROMOSOMAL LOCATION

Genetic locus: ATM (human) mapping to 11q22.3; Atm (mouse) mapping to 9 A5.3.

SOURCE

Atm (1A1) is a mouse monoclonal antibody raised against amino acids 2577-3056 of Atm of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Atm (1A1) is recommended for detection of Atm 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Atm siRNA (h): sc-29761, Atm siRNA (m): sc-29762, Atm shRNA Plasmid (h): sc-29761-SH, Atm shRNA Plasmid (m): sc-29762-SH, Atm shRNA (h) Lentiviral Particles: sc-29761-V and Atm shRNA (m) Lentiviral Particles: sc-29762-V.

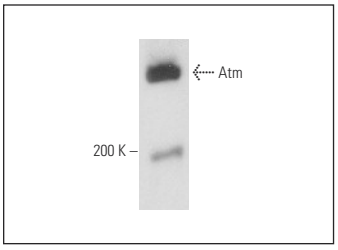
Molecular Weight of Atm: 370 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RAW 264.7 whole cell lysate: sc-2211 or SK-N-SH cell lysate: sc-2410.

STORAGE

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

DATA



Atm (1A1): sc-73615. Western blot analysis of Atm expression in SK-N-SH whole cell lysate.

SELECT PRODUCT CITATIONS

1. Vinciguerra, M., et al. 2008. Negative charged threonine 95 of c-Jun is essential for c-Jun N-terminal kinase-dependent phosphorylation of threonine 91/93 and stress-induced c-Jun biological activity. Int. J. Biochem. Cell Biol. 40: 307-316.
2. Fan, S., et al. 2009. Low concentrations of diindolylmethane, a metabolite of indole-3-carbinol, protect against oxidative stress in a BRCA1-dependent manner. Cancer Res. 69: 6083-6091.
3. Li, B., et al. 2013. PIG3 functions in DNA damage response through regulating DNA-PK_{CS} homeostasis. Int. J. Biol. Sci. 9: 425-434.
4. Weaver, A.N., et al. 2015. DNA double strand break repair defect and sensitivity to poly ADP-ribose polymerase (PARP) inhibition in human papillomavirus 16-positive head and neck squamous cell carcinoma. Oncotarget 6: 26995-27007.
5. Carranza, D., et al. 2016. Molecular and functional characterization of a cohort of Spanish patients with ataxia-telangiectasia. Neuromolecular Med. E-published.

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.

CONJUGATES

See **Atm (G-12): sc-377293** for Atm antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.