

# Atm (Q-19): sc-7129

## 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<sub>CS</sub> 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 (telangiectases) 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Atm (Q-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Atm 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.

Blocking peptide available for competition studies, sc-7129 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Atm (Q-19) 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)], 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). Atm (Q-19) is also recommended for detection of Atm in additional species, including canine.

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.

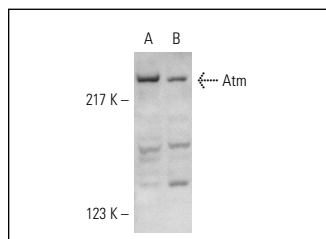
Molecular Weight of Atm: 370 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, HeLa nuclear extract: sc-2120 or A-431 nuclear extract: sc-2122.

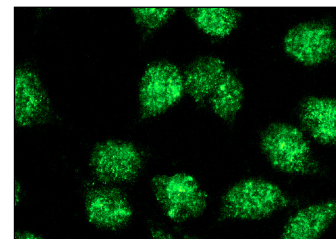
## RECOMMENDED SECONDARY REAGENTS

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



Atm (Q-19): sc-7129. Western blot analysis of Atm expression in HeLa (A) and A-431 (B) nuclear extracts.



Atm (Q-19): sc-7129. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Qi, J., et al. 2004. Functional expression of ATM gene carried by HSV amplicon vector *in vitro* and *in vivo*. *Gene Ther.* 11: 25-33.
2. Yoshioka, K., et al. 2011. Hepatocyte nuclear factor 1b induced by chemical stress accelerates cell proliferation and increases genomic instability in mouse liver. *J. Recept. Signal Transduct. Res.* 31: 132-138.
3. Valdes-Sanchez, L., et al. 2013. ATR localizes to the photoreceptor connecting cilium and deficiency leads to severe photoreceptor degeneration in mice. *Hum. Mol. Genet.* 22: 1507-1515.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **Atm (G-12): sc-377293** or **Atm (1B10): sc-135663**, our highly recommended monoclonal alternatives to Atm (Q-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Atm (G-12): sc-377293**.