SANTA CRUZ BIOTECHNOLOGY, INC.

Atm (H-248): sc-7230

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-PKCS 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 they display delays in p53 induction.

SOURCE

Atm (H-248) is a rabbit polyclonal antibody raised against amino acids 2830-3056 mapping at the C-terminus of Atm (ataxia telangiectasia protein) 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.

APPLICATIONS

Atm (H-248) 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 (H-248) is also recommended for detection of Atm in additional species, including equine, canine, bovine, porcine and avian.

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 whole cell lysate: sc-2200 or RAW 264.7 whole cell lysate: sc-2211.

STORAGE

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

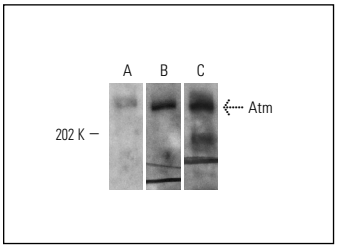
PROTOCOLS

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

RESEARCH USE

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

DATA



Western blot analysis of Atm expression in G-361 whole cell lysate. Antibodies tested include Atm (N-17): sc-1213 (**A**), Atm (Q-19): sc-7129 (**B**) and Atm (H-248): sc-7230 (**C**).

SELECT PRODUCT CITATIONS

1. Cortez, D., et al. 1999. Requirement of ATM-dependent phosphorylation of BRCA1 in the DNA damage response to double-strand breaks. Science 286: 1162-1166.
2. Bhuller, Y., et al. 2006. A developmental role for ataxia-telangiectasia mutated in protecting the embryo from spontaneous and phenytoin-enhanced embryopathies in culture. Toxicol. Sci. 93: 156-163.
3. Zhang, S., et al. 2007. Centrosomal localization of DNA damage checkpoint proteins. J. Cell. Biochem. 101: 451-465.
4. Clavijo, C., et al. 2007. Protein kinase Cδ-dependent and -independent signaling in genotoxic response to treatment of desferroxamine, a hypoxia-mimetic agent. Am. J. Physiol., Cell Physiol. 292: C2150-C2160.
5. Bandhakavi, S., et al. 2010. Quantitative nuclear proteomics identifies mTOR regulation of DNA damage response. Mol. Cell. Proteomics 9: 403-414.
6. Horton, J.K., et al. 2011. Requirement for NBS1 in the S phase checkpoint response to DNA methylation combined with PARP inhibition. DNA Repair 10: 225-234.
7. Uno, S., et al. 2011. Efficient expression and purification of human replication fork-stabilizing factor, Claspin, from mammalian cells: DNA-binding activity and novel protein interactions. Genes Cells 16: 842-856.
8. Mu, X.F., et al. 2011. DNA damage-sensing kinases mediate the mouse 2-cell embryo's response to genotoxic stress. Biol. Reprod. 85: 524-535.

MONOS Satisfaction Guaranteed

Try **Atm (G-12): sc-377293** or **Atm (1B10): sc-135663**, our highly recommended monoclonal aternatives to Atm (H-248). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Atm (G-12): sc-377293**.