p-Atm (10H11.E12): sc-47739

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 conjunctiva 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. Cultured cells respond to breaks in double stranded DNA by immediate activation of AT through autophosphorylation on Serine 1981. Most human tissues, however, contain the non-phosphorylated, inactive form of Atm.

CHROMOSOMAL LOCATION

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

SOURCE

p-Atm (10H11.E12) is a mouse monoclonal antibody raised against a synthetic phosphopeptide corresponding to amino acids 1974-1988 surrounding the Ser1981 phosphorylation site of human Atm.

PRODUCT

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-Atm (10H11.E12) is available conjugated to agarose (sc-47739 AC), 500 µg/0.25 ml and elosase; to either phycoerythrin (sc-47739 PE), fluorescein (sc-47739 FITC), Alexa Fluor® 488 (sc-47739 AF488), Alexa Fluor® 546 (sc-47739 AF546), Alexa Fluor® 594 (sc-47739 AF594) or Alexa Fluor® 647 (sc-47739 AF647), 200 µg/ml, for WB, IF, FC and IF; and to either Alexa Fluor® 680 (sc-47739 AF680) or Alexa Fluor® 790 (sc-47739 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FC.

APPLICATIONS

p-Atm (10H11.E12) is recommended for detection of Ser 1981 phosphorylated 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 lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (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 p-Atm: 350 kDa.

STORAGE

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

DATA

Western blot analysis of Atm phosphorylation in untreated (A,D), UV treated (B,E) and UV and lambda irradiated (C,F) HeLa nuclear extracts. Antibodies tested include p-Atm (10H11.E12); sc-47739 (A,B,C) and Atm (11E12): sc-53173 (D,E,F). p-Atm (10H11.E12): sc-47739. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of cells in non-germinal center (A) Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of exocrine glandular cells and cytoplasmic staining of islets of Langerhans (B).

SELECT PRODUCT CITATIONS


RESEARCH USE

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