

## Anti-Phospho-ATM S1981 Antibody

Catalog Number: P00014

### About ATM

ATM, the gene mutated in the hereditary disease ataxia-telangiectasia, codes for a protein kinase that acts as a master regulator of cellular responses to DNA double-strand breaks. ATM is normally inactive and the question of how it is activated in the event of DNA damage (due to ionizing radiation for instance) is central to understanding its function. ATM protein is now shown to be present in undamaged cells as an inactive dimer. Low doses of ionizing radiation, which induce only a few DNA breaks, activate at least half of the total ATM protein present, possibly in response to changes in chromatin structure. The ATM gene encodes a 370-kDa protein that belongs to the phosphoinositide 3-kinase (PI(3)K) superfamily, but which phosphorylates proteins rather than lipids. The 350-amino-acid kinase domain at the carboxy terminus of this large protein is the only segment of ATM with an assigned function. Exposure of cells to IR triggers ATM kinase activity and this function is required for arrests in G1, S and G2 phases of the cell cycle. Several substrates of the ATM kinase participate in these IR-induced cell-cycle arrests. These include p53, Mdm2 and Chk2 in the G1 checkpoint; Nbs1, Brca1, FancD2 and SMC1 in the transient IR-induced S-phase arrest; and Brca1 and hRad17 in the G2/M checkpoint. This antibody is similar to the rabbit host antibody discussed by Bakkenist, C. J. & Kastan, M. B. in Nature 421, 499-506 (2003).

### Overview

Product Name	Anti-Phospho-ATM S1981 Antibody
Reactive Species	Human
Description	Boster Bio Anti-Phospho-ATM S1981 Antibody (Catalog # P00014). Tested in ELISA, WB applications. This antibody reacts with Human.
Application	ELISA, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Sheep
Uniprot ID	Q13315

### Technical Details

Immunogen	This antibody was affinity purified from whole sheep serum prepared by repeated immunizations with a synthetic peptide corresponding to a region near serine 1981 of human ATM conjugated to KLH using maleimide.
Predicted Reactive Species	Chimpanzee

Isotype	IgG
Form	Liquid (sterile filtered)
Concentration	1.0 mg/mL by UV absorbance at 280 nm
Purification	This affinity-purified antibody is directed against human ATM and is useful in determining its presence in various assays. This polyclonal anti-ATM antibody recognizes the phosphorylated epitope in native and over-expressed proteins found in various tissues and extracts. Reactivity is observed against human ATM and cross-reactivity with ATM from other mammalian sources has not been tested.
Suggested Dilutions	ELISA: 1:2,000 - 1:10,000 WB: 1:500 - 1:2,000 Affinity purified sheep anti-ATM has been tested by ELISA and western blotting against native form phosphorylated ATM PK.

## Anti-Phospho-ATM S1981 Antibody (P00014) Images

