

### Anti-ATM (phospho S1981) antibody [10H11.E12] ab36810

★★★★★ [2 Abreviews](#) [75 References](#) [4 图像](#)

#### 概述

产品名称	Anti-ATM (phospho S1981)抗体[10H11.E12]
描述	小鼠单克隆抗体[10H11.E12] to ATM (phospho S1981)
宿主	Mouse
经测试应用	适用于: WB, Flow Cyt (Intra), IHC-P
种属反应性	与反应: Human
免疫原	Synthetic peptide corresponding to Human ATM. Database link: <a href="#">Q13315</a>
阳性对照	Irradiated normal human fibroblasts (no reactivity against non-irradiated cell extracts).
常规说明	<p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact <a href="mailto:orders@abcam.com">orders@abcam.com</a>.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### 性能

形式	Liquid
存放说明	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
存储溶液	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
纯度	Protein G purified
克隆	单克隆
克隆编号	10H11.E12
同种型	IgG1

轻链类型

kappa

应用

The Abpromise guarantee      **Abpromise™**承诺保证使用ab36810于以下的经测试应用

“应用说明”部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB		1/1000. Detects a band of approximately 370 kDa (predicted molecular weight: 370 kDa). Abcam recommends using 3% Milk as the blocking agent.
Flow Cyt (Intra)		Use 1µg for 10 <sup>6</sup> cells. <b>ab170190</b> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★★ (1)	Use a concentration of 4 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

靶标

功能	Serine/threonine protein kinase which activates checkpoint signaling upon double strand breaks (DSBs), apoptosis and genotoxic stresses such as ionizing ultraviolet A light (UVA), thereby acting as a DNA damage sensor. Recognizes the substrate consensus sequence [ST]-Q. Phosphorylates 'Ser-139' of histone variant H2AX/H2AFX at double strand breaks (DSBs), thereby regulating DNA damage response mechanism. Also plays a role in pre-B cell allelic exclusion, a process leading to expression of a single immunoglobulin heavy chain allele to enforce clonality and monospecific recognition by the B-cell antigen receptor (BCR) expressed on individual B lymphocytes. After the introduction of DNA breaks by the RAG complex on one immunoglobulin allele, acts by mediating a repositioning of the second allele to pericentromeric heterochromatin, preventing accessibility to the RAG complex and recombination of the second allele. Also involved in signal transduction and cell cycle control. May function as a tumor suppressor. Necessary for activation of ABL1 and SAPK. Phosphorylates p53/TP53, FANCD2, NFKBIA, BRCA1, CTIP, nibrin (NBN), TERF1, RAD9 and DCLRE1C. May play a role in vesicle and/or protein transport. Could play a role in T-cell development, gonad and neurological function. Plays a role in replication-dependent histone mRNA degradation. Binds DNA ends.
组织特异性	Found in pancreas, kidney, skeletal muscle, liver, lung, placenta, brain, heart, spleen, thymus, testis, ovary, small intestine, colon and leukocytes.
疾病相关	Defects in ATM are the cause of ataxia telangiectasia (AT) [MIM:208900]; also known as Louis-Bar syndrome, which includes four complementation groups: A, C, D and E. This rare recessive disorder is characterized by progressive cerebellar ataxia, dilation of the blood vessels in the conjunctiva and eyeballs, immunodeficiency, growth retardation and sexual immaturity. AT patients have a strong predisposition to cancer; about 30% of patients develop tumors, particularly lymphomas and leukemias. Cells from affected individuals are highly sensitive to damage by ionizing radiation and resistant to inhibition of DNA synthesis following irradiation. Note=Defects in ATM contribute to T-cell acute lymphoblastic leukemia (TALL) and T-prolymphocytic leukemia (TPLL). TPLL is characterized by a high white blood cell count, with a predominance of prolymphocytes, marked splenomegaly, lymphadenopathy, skin lesions and

serous effusion. The clinical course is highly aggressive, with poor response to chemotherapy and short survival time. TPLL occurs both in adults as a sporadic disease and in younger AT patients. Note=Defects in ATM contribute to B-cell non-Hodgkin lymphomas (BNHL), including mantle cell lymphoma (MCL).

Note=Defects in ATM contribute to B-cell chronic lymphocytic leukemia (BCLL). BCLL is the commonest form of leukemia in the elderly. It is characterized by the accumulation of mature CD5+ B lymphocytes, lymphadenopathy, immunodeficiency and bone marrow failure.

#### 序列相似性

Belongs to the PI3/PI4-kinase family. ATM subfamily.

Contains 1 FAT domain.

Contains 1 FATC domain.

Contains 1 PI3K/PI4K domain.

#### 结构域

The FATC domain is required for interaction with KAT5.

#### 翻译后修饰

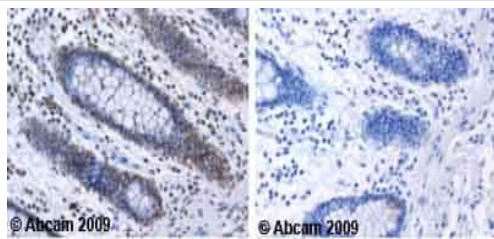
Phosphorylated by NUA1/ARK5. Autophosphorylation on Ser-367, Ser-1893, Ser-1981 correlates with DNA damage-mediated activation of the kinase.

Acetylation, on DNA damage, is required for activation of the kinase activity, dimer-monomer transition, and subsequent autophosphorylation on Ser-1981. Acetylated in vitro by KAT5/TIP60.

#### 细胞定位

Nucleus. Cytoplasmic vesicle. Primarily nuclear. Found also in endocytic vesicles in association with beta-adaptin.

#### 图片



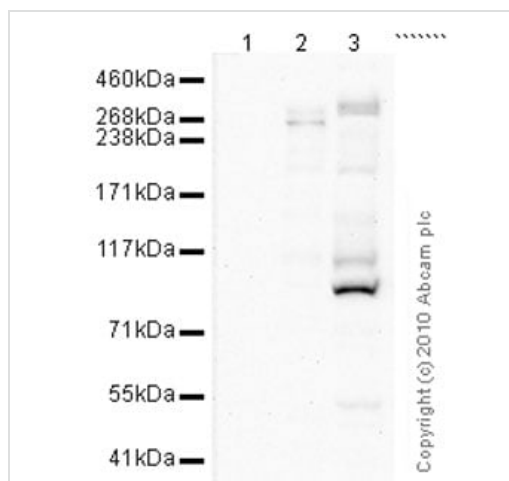
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810)

ab36810 staining human colon tissue. Staining is localized to the nucleus.

**Left panel:** with primary antibody at 4 µg/ml. **Right panel:** Isotype control.

Sections were stained using an automated system DAKO Autostainer Plus at room temperature. Sections were rehydrated and antigen retrieved with the DAKO 3-in-1 antigen retrieval buffer citrate pH 6.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H<sub>2</sub>O<sub>2</sub> in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with hematoxylin and coverslipped under DePeX.

Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Western blot - Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810)

**All lanes :** Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810) at 10 µg/ml

**Lane 1 :** HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

**Lane 2 :** Extract from patient with Ataxia-Telangiectasia whole cell lysate

**Lane 3 :** Irradiated HeLa Whole Cell Lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**Lanes 1 & 3 :** Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

**Lane 2 :** Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

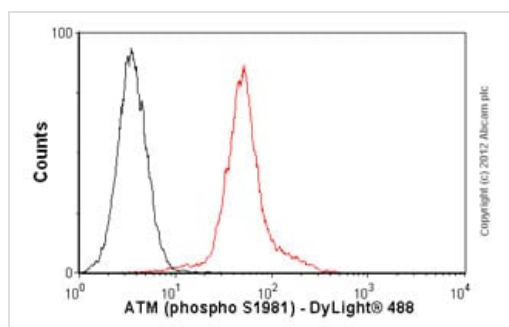
Performed under non-reducing conditions.

**Predicted band size:** 370 kDa

**Observed band size:** 370 kDa

**Additional bands at:** 100 kDa, 110 kDa, 145 kDa, 200 kDa. We are unsure as to the identity of these extra bands.

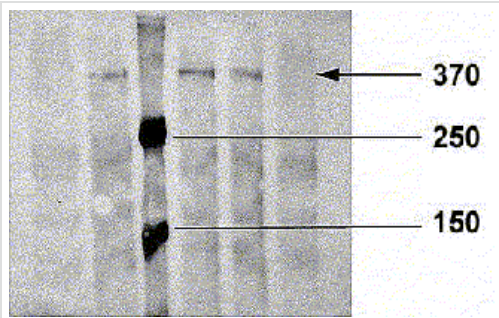
**Exposure time:** 20 minutes



Flow Cytometry (Intracellular) - Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810)

Overlay histogram showing HeLa cells stained with ab36810 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab36810, 1µg/1x10<sup>6</sup> cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) ([ab96879](#)) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] ([ab91353](#), 2µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >5,000 events was performed.

This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810)

**All lanes :** Anti-ATM (phospho S1981) antibody [10H11.E12] (ab36810) at 1/1000 dilution

**Lane 1 :** Control lane

**Lane 2 :** Irradiated Human fibroblasts (10 Gy gamma-irradiation)

**Lane 3 :** Molecular weight marker

**Lane 4 :** Peroxidated Human fibroblasts (300  $\mu$ M hydrogen peroxide)

**Lane 5 :** Peroxidated Human fibroblasts (1 mM hydrogen peroxide)

**Lane 6 :** Peroxidated Human fibroblasts (10 mM hydrogen peroxide)

Developed using the ECL technique.

**Predicted band size:** 370 kDa

**Observed band size:** 370 kDa

Lysate loading concentration: 40 $\mu$ g

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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