abcam

Product datasheet

Anti-ATM antibody [EPR17059] ab199726

敲除验证 重组 RabMAb

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概述

产品名称	Anti-ATM抗体[EPR17059]
描述	兔单克隆抗体[EPR17059] to ATM
宿主	Rabbit
经测试应用	**适用于:** IP, WB **不适用于:** Flow Cyt or ICC/IF
种属反应性	**与反应:** Mouse, Rat, Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Rat testis, mouse testis and mouse spleen lysates; PC-12, 293 and SH-SY5Y whole cell lysates. ICC/IF: RAW 264.7 cells. IP: HEK-293 and SH-SY5Y whole cell lysates. Flow Cyt: NIH/3T3 (mouse embryo)
常规说明	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
存储溶液	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR17059

同种型	IgG

应用

The Abpromise guarantee	**Abpromise™承诺保证使用**ab199726**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
IP		1/100.
WB	★★☆☆☆ (1)	1/2000. Detects a band of approximately 350 kDa (predicted molecular weight: 350 kDa).

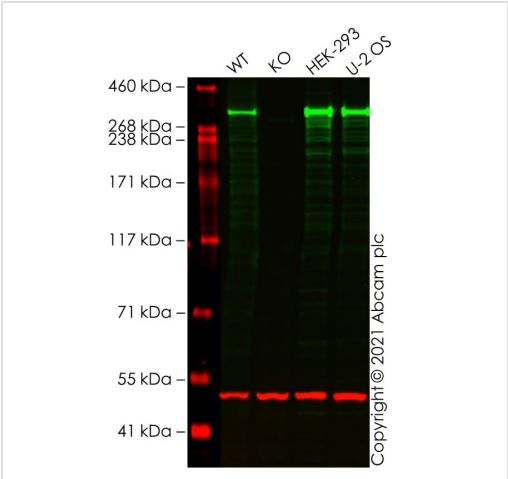
应用说明	Is unsuitable for Flow Cyt or ICC/IF.

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 NUAK1/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



Western blot - Anti-ATM antibody [EPR17059] (ab199726)

All lanes : Anti-ATM antibody [EPR17059] (ab199726) at 1/2000 dilution

Lane 1 : Wild-type A549 cell lysate
Lane 2 : ATM knockout A549 cell lysate
Lane 3 : HEK-293 cell lysate
Lane 4 : U-2 OS cell lysate

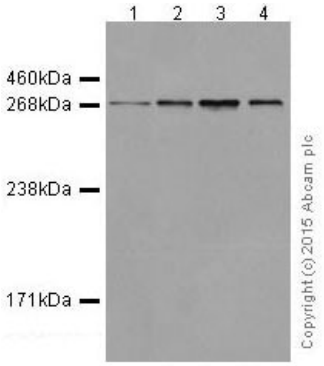
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 350 kDa
Observed band size: 350 kDa

False colour image of Western blot: Anti-ATM antibody [EPR17059] staining at 1/2000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (**ab7291**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab199726 was shown to bind specifically to ATM. A band was observed at 350 kDa in wild-type A549 cell lysates with no signal observed at this size in ATM knockout cell line **ab276095** (knockout cell lysate **ab283834**). To generate this image, wild-type and ATM knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane.

Membranes were blocked in 5% milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) at 1/20000 dilution.



Western blot - Anti-ATM antibody [EPR17059] (ab199726)

All lanes : Anti-ATM antibody [EPR17059] (ab199726) at 1/2000 dilution

Lane 1 : Rat testis lysate
Lane 2 : Mouse testis lysate
Lane 3 : 293 (Human epithelial cells from embryonic kidney) whole cell lysate
Lane 4 : SH-SY5Y (Human neuroblastoma from bone marrow cells) whole cell lysate

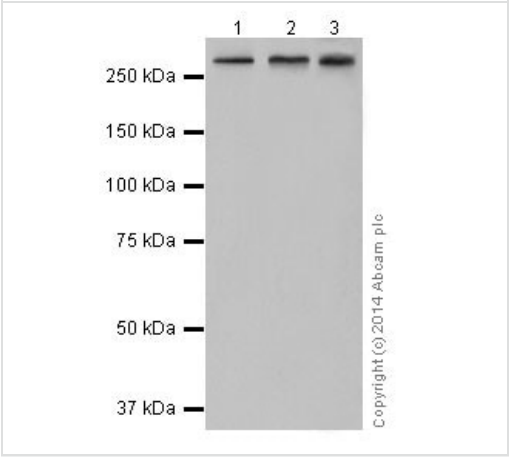
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 350 kDa
Observed band size: 350 kDa

Exposure time: 20 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-ATM antibody [EPR17059] (ab199726)

All lanes : Anti-ATM antibody [EPR17059] (ab199726) at 1/2000 dilution

Lane 1 : Rat testis lysate
Lane 2 : Mouse testis lysate
Lane 3 : Mouse spleen lysate

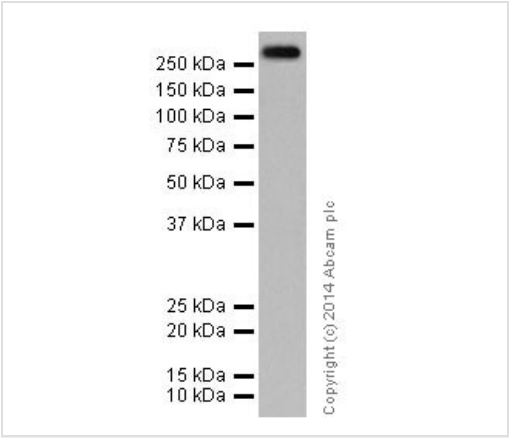
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 350 kDa
Observed band size: 350 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-ATM antibody [EPR17059] (ab199726)

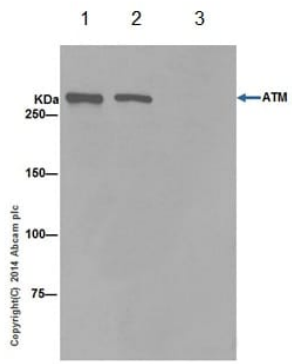
Anti-ATM antibody [EPR17059] (ab199726) at 1/5000 dilution + 293 (Human epithelial cells from embryonic kidney) whole cell lysate at 10 µg

Secondary
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 350 kDa
Observed band size: 350 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.



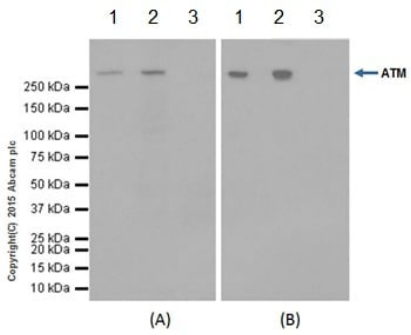
Immunoprecipitation - Anti-ATM antibody [EPR17059] (ab199726)

ATM was immunoprecipitated from 1mg of HEK-293 (Human epithelial cells from embryonic kidney) whole cell lysate with ab199726 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab199726 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: HEK-293 whole cell lysate 10ug (Input). Lane 2: ab199726 IP in HEK-293 whole cell lysate. Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab199726 in HEK-293 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.



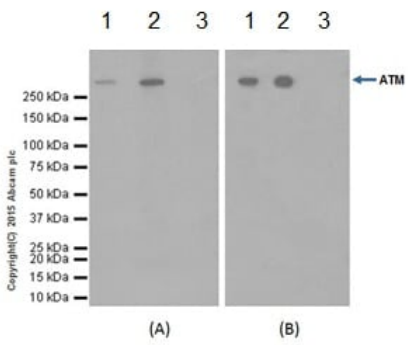
Immunoprecipitation - Anti-ATM antibody [EPR17059] (ab199726)

ATM was immunoprecipitated from 1mg of HEK-293 (Human epithelial cells from embryonic kidney) whole cell lysate with ab199726 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab199726 at 1/500 dilution (Panel A) or **ab32420** at 1/500 dilution (Panel B). Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: HEK-293 whole cell lysate 10ug (Input). Lane 2: ab199726 IP in HEK-293 whole cell lysate. Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab199726 in HEK-293 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 30 seconds (Panel A and B).



Immunoprecipitation - Anti-ATM antibody [EPR17059] (ab199726)

ATM was immunoprecipitated from 1mg of SH-SY5Y (Human neuroblastoma from bone marrow cells) whole cell lysate with ab199726 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab199726 at 1/500 dilution (Panel A) or **ab32420** at 1/500 dilution (Panel B). Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: SH-SY5Y whole cell lysate 10ug (Input). Lane 2: ab199726 IP in SH-SY5Y whole cell lysate. Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab199726 in SH-SY5Y whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 30 seconds (Panel A and B).

Anti-ATM antibody [EPR17059] (ab199726)

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