abcam

Product datasheet

Anti-ATR antibody ab10312

7 References 2 Images

Overview

Product name	Anti-ATR antibody
Description	Rabbit polyclonal to ATR
Host species	Rabbit
Specificity	We have data to indicate that this antibody may not cross react with Xenopus laevis. However, this has not been conclusively tested and expression levels may vary in certain cell lines/tissues.
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Chimpanzee, Rhesus monkey, Gorilla, Orangutan
Immunogen	Synthetic peptide within Human ATR aa 400-500. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements. Database link: **Q13535**
Positive control	Whole cell lysate from HeLa and U2OS cells
General notes	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. 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&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
Purity	Immunogen affinity purified
Clonality	Polyclonal

Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab10312 in the following tested applications.

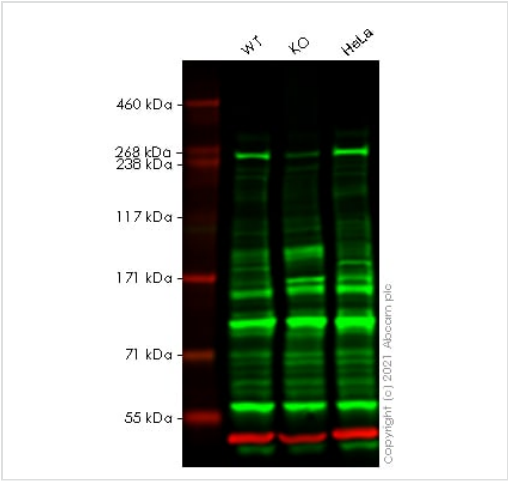
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/15000 - 1/30000. Detects a band of approximately 300 kDa (predicted molecular weight: 317 kDa).

Target

Function	Serine/threonine protein kinase which activates checkpoint signaling upon genotoxic stresses such as ionizing radiation (IR), ultraviolet light (UV), or DNA replication stalling, thereby acting as a DNA damage sensor. Recognizes the substrate consensus sequence [ST]-Q. Phosphorylates BRCA1, CHEK1, MCM2, RAD17, RPA2, SMC1 and p53/TP53, which collectively inhibit DNA replication and mitosis and promote DNA repair, recombination and apoptosis. Phosphorylates 'Ser-139' of histone variant H2AX/H2AFX at sites of DNA damage, thereby regulating DNA damage response mechanism. Required for FANCD2 ubiquitination. Critical for maintenance of fragile site stability and efficient regulation of centrosome duplication.
Tissue specificity	Ubiquitous, with highest expression in testis. Isoform 2 is found in pancreas, placenta and liver but not in heart, testis and ovary.
Involvement in disease	Defects in ATR are a cause of Seckel syndrome type 1 (SCKL1) [MIM:210600]. SCKL1 is a rare autosomal recessive disorder characterized by growth retardation, microcephaly with mental retardation, and a characteristic 'bird-headed' facial appearance.
Sequence similarities	Belongs to the PI3/PI4-kinase family. ATM subfamily. Contains 1 FAT domain. Contains 1 FATC domain. Contains 2 HEAT repeats. Contains 1 PI3K/PI4K domain.
Post-translational modifications	Phosphorylated; autophosphorylates in vitro.
Cellular localization	Nucleus. Nucleus > PML body. Depending on the cell type, it can also be found in PML nuclear bodies. Recruited to chromatin during S-phase. Redistributes to discrete nuclear foci upon DNA damage, hypoxia or replication fork stalling.

Images



Western blot - Anti-ATR antibody (ab10312)

All lanes : Anti-ATR antibody (ab10312) at 1/15000 dilution

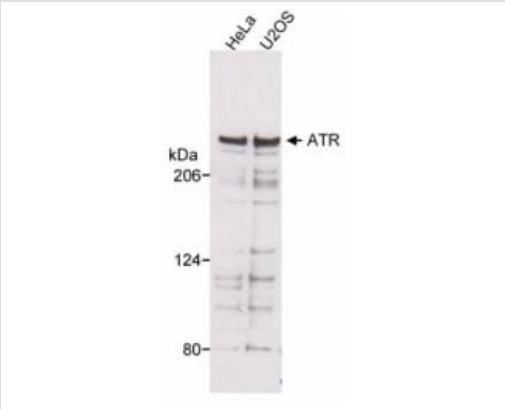
Lane 1 : Wild-type A549 cell lysate
Lane 2 : ATR knockout A549 cell lysate
Lane 3 : HeLa cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 317 kDa
Observed band size: 260 kDa

False colour image of Western blot: Anti-ATR antibody staining at 1/15000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (**ab7291**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab10312 was shown to bind specifically to ATR. A band was observed at 260 kDa in wild-type A549 cell lysates with no signal observed at this size in ATR knockout cell line **ab276104** (knockout cell lysate **ab277987**). To generate this image, wild-type and ATR 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 3 % 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-ATR antibody (ab10312)

Detection of human ATR by Western Blot. Samples: Whole cell lysate (20 µg) from HeLa and U2OS cells separated on a 3 to 8% tris-acetate gel. Antibody: ab10312 used at 0.07 mg/ml. Detection: Chemiluminescence with 15 second exposure. Detection of human ATR by Western Blot. Samples: Whole cell lysate (20 µg) from HeLa and U2OS cells separated on a 3 to 8% tris-acetate gel. Antibody: ab10312 used at 0.07 mg/ml. Detection: Chemiluminescence with 15 second exposure.

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

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