

## Product datasheet

# DNA Damage Kinases Panel (ATM, ATM pS1981, ATR, ATR pS428, DNA-PKcs, DNA-PKcs pS2056) ab103970

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### Overview

**Product name** DNA Damage Kinases Panel (ATM, ATM pS1981, ATR, ATR pS428, DNA-PKcs, DNA-PKcs pS2056)

**Product overview** ab103970 is a DNA Damage Kinases Panel designed for the validation and characterization of the phosphorylation state of the DNA damage responsive kinases ATM and DNA-PKcs. ATM and DNA-PK are protein kinases that are active and become phosphorylated in response to DNA double strand breaks (DSBs). ATM is phosphorylated on S1981 and phosphorylates various proteins during the cellular response to DNA DSBs, while DNA-PK, a key component of the non-homologous end-joining pathway of DSB repair, is phosphorylated on S2056.

**February 20th 2019: Please note these changes:** The following changes were made to this panel: Anti-ATM antibody ([ab82512](#)) was replaced with Anti-ATM antibody [EPR17059] ([ab199726](#)), Anti-DNA PKcs (phospho S2056) antibody - ChIP Grade ([ab18192](#)) was replaced with Anti-DNA PKcs (phospho S2056) antibody [EPR5670] ([ab124918](#)) and Anti-DNA PKcs antibody ([ab70250](#)) was replaced with Anti-DNA PKcs antibody [Y393] ([ab32566](#)).

**Notes** [Explore our range of antibody sample panels](#) designed to provide you with a variety of trial-size antibodies in a convenient and cost-effective format.

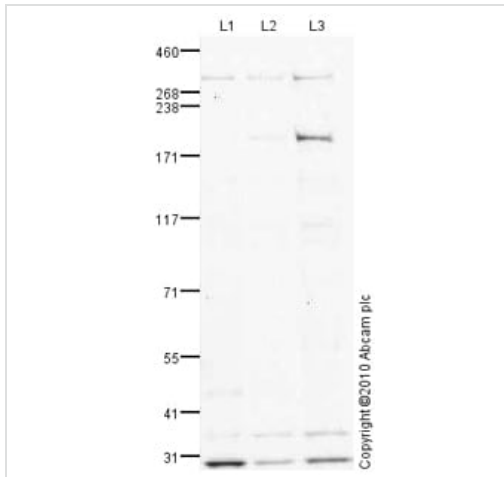
### Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	1 units
<a href="#">ab36810 - Anti-ATM (phospho S1981) antibody [10H11.E12]</a>	1 x 25µg
<a href="#">ab199726 - Anti-ATM antibody [EPR17059]</a>	2 x 10µl
<a href="#">ab178407 - Anti-ATR (phospho S428) antibody [EPR2184]</a>	1 x 10µl
<a href="#">ab2905 - Anti-ATR antibody - ChIP Grade</a>	1 x 25µl

Components	1 units
<b><u>ab124918 - Anti-DNA PKcs (phospho S2056) antibody [EPR5670]</u></b>	2 x 10µl
<b><u>ab32566 - Anti-DNA PKcs antibody [Y393]</u></b>	2 x 10µl

## Images



Western blot - DNA Damage Response Kinases  
Panel (ab103970)

**All lanes** : Anti-ATM antibody (**ab82512**) at 1 µg/ml

**Lane 1** : HepG2 (Human hepatocellular liver carcinoma cell line)  
Whole Cell Lysate

**Lane 2** : HEK293 (Human embryonic kidney cell line) Whole Cell  
Lysate

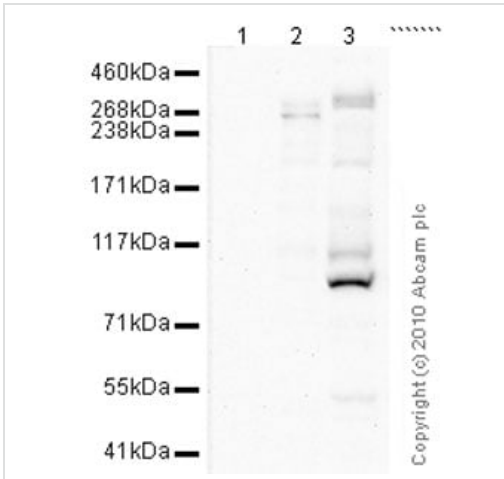
**Lane 3** : HeLa (Human epithelial carcinoma cell line) Nuclear  
Lysate

Lysates/proteins at 10 µg per lane.

### Secondary

**All lanes** : Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed  
(HRP) at 1/3000 dilution

**ab82512** was raised against an immunogen that is predicted to cross react with both isoform 1 (350 kDa) and isoform 2 (195 kDa) of Human Serine-protein kinase ATM (ATM). We believe that the band observed at 195 kDa corresponds to isoform 2.



Western blot - DNA Damage Kinases Panel (ATM, ATM phospho S1981, DNA-PKcs, DNA-PKcs phospho S2056) (ab103970)

**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

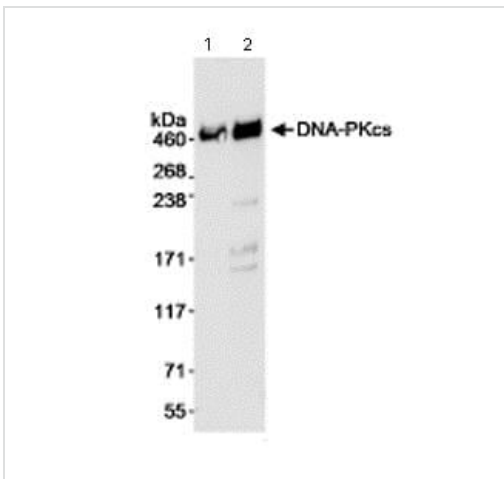
**Lane 3 :** Irradiated HeLa Whole Cell Lysate

Lysates/proteins at 20 µg per lane.

### Secondary

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

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



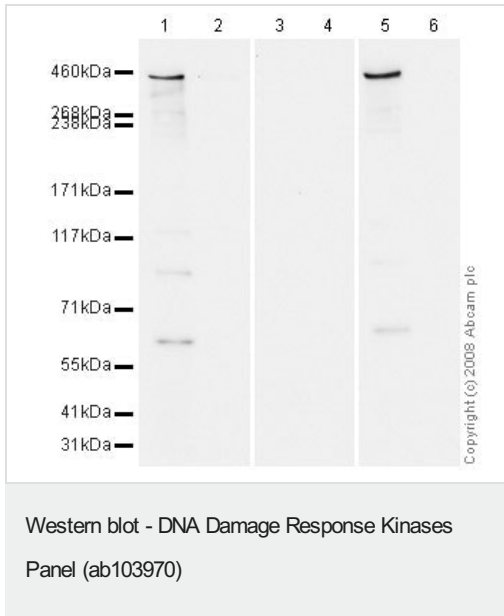
Western blot - DNA Damage Kinases Panel (ATM, ATM phospho S1981, DNA-PKcs, DNA-PKcs phospho S2056) (ab103970)

**All lanes :** Anti-DNA PKcs antibody (**ab70250**) at 0.1 µg/ml

**Lane 1 :** Whole cell lysate from HeLa cells at 15 µg

**Lane 2 :** Whole cell lysate from HeLa cells at 50 µg

**Additional bands at:** 170 kDa, 180 kDa, 230 kDa. We are unsure as to the identity of these extra bands.



**All lanes** : Anti-DNA PKcs (phospho S2056) antibody (**ab18192**) at 1 µg/ml

**Lane 1** : HeLa Gamma Irradiated Whole Cell Lysate Pack (**ab13823**)

**Lane 2** : Untreated HeLa cell extract

**Lane 3** : HeLa Gamma Irradiated Whole Cell Lysate Pack (**ab13823**) with Human DNA PKcs (phospho S2056) peptide (**ab20406**) at 1 µg/ml

**Lane 4** : Untreated HeLa cell extract with Human DNA PKcs (phospho S2056) peptide (**ab20406**) at 1 µg/ml

**Lane 5** : HeLa Gamma Irradiated Whole Cell Lysate Pack (**ab13823**) with Human DNA PKcs peptide (**ab20407**) at 1 µg/ml

**Lane 6** : Untreated HeLa cell extract with Human DNA PKcs peptide (**ab20407**) at 1 µg/ml

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes** : Alexa Fluor Goat polyclonal to Rabbit IgG (700) at 1/10000 dilution

**ab18192** specifically recognizes a band at ~460 kDa corresponding to DNA PKcs in HeLa cells that have been treated with ionizing radiation (lane 1). This band is not detected in untreated cells (lane 2). The activity of the antibody is quenched by the addition of the immunizing (modified) peptide, **ab20406** (lanes 3) but not the unmodified peptide, **ab20407** (lane 5). For the **ab13823** irradiated HeLa cell lysate, the 4 hour post-treatment extract was used.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

DNA Damage Kinases Panel (ATM, ATM pS1981, ATR, ATR pS428, DNA-PKcs, DNA-PKcs pS2056) (ab103970)

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

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