

**Histone H2A.X Antibody (S139)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AE1016a****Specification**

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**Histone H2A.X Antibody (S139) - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">P16104</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Concentration	1mg/ml
Isotype	Rabbit IgG
Calculated MW	15145

**Histone H2A.X Antibody (S139) - Additional Information****Gene ID** 3014**Other Names**

Histone H2AX, H2a/x, Histone H2AX, H2AFX, H2AX

**Target/Specificity**

The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

**Dilution**

WB~~1:500~1:1000

IHC~~1:50~1:100

IF~~1:100~200

**Format**

affinity Purified IgG, in PBS, 0.02% sodium azide and 50% glycerol.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Histone H2A.X Antibody (S139) is for research use only and not for use in diagnostic or therapeutic procedures.

**Histone H2A.X Antibody (S139) - Protein Information****Name** H2AX ([HGNC:4739](#))**Function**

Variant histone H2A which replaces conventional H2A in a subset of nucleosomes. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post- translational modifications of histones, also called histone code, and nucleosome remodeling. Required for checkpoint-mediated arrest of cell cycle progression in response to low doses of ionizing radiation and for efficient repair of DNA double strand breaks (DSBs) specifically when modified by C-terminal phosphorylation.

#### Cellular Location

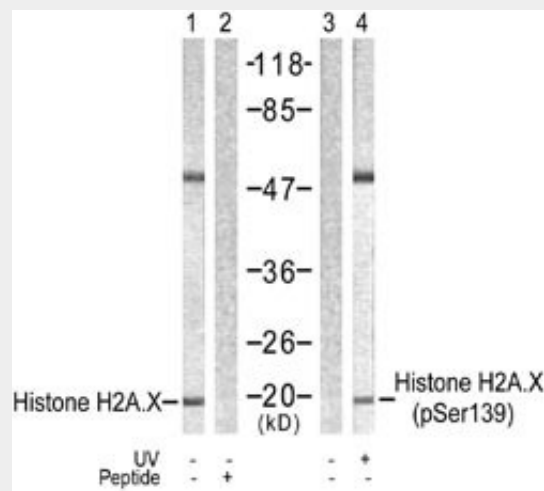
Nucleus. Chromosome

#### Histone H2A.X Antibody (S139) - Protocols

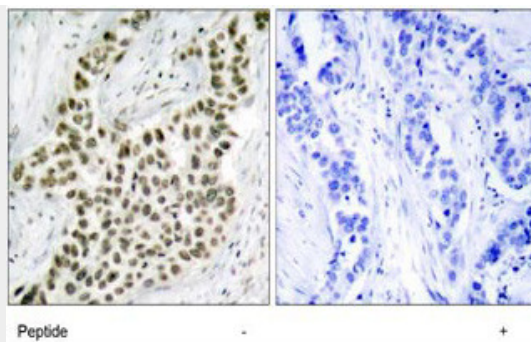
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

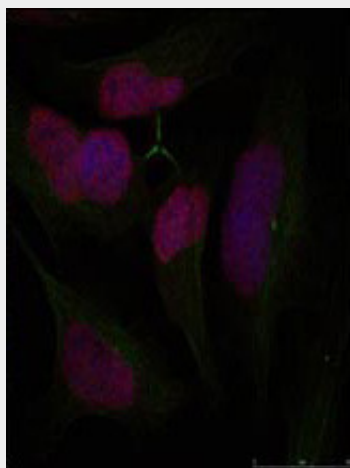
#### Histone H2A.X Antibody (S139) - Images



Western blot analysis of extract from 293 cells untreated or treated with UV, using Histone H2A.X Antibody (S139) (#AE1016a, Lane 1 and 2) and Phospho-Histone H2A.X -S139 Antibody (#AE1016b, Lane 3 and 4).



Immunohistochemical analysis of paraffin- embedded human breast carcinoma tissue using Histone H2A.X Antibody (S139) (#AE1016a).



Immunofluorescence staining of methanol-fixed HeLa cells using Histone H2A.X Antibody (S139) (#AE1016a, Red).

### **Histone H2A.X Antibody (S139) - Background**

Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Two molecules of each of the four core histones (H2A, H2B, H3, and H4) form an octamer, around which approximately 146 bp of DNA is wrapped in repeating units, called nucleosomes. The linker histone, H1, interacts with linker DNA between nucleosomes and functions in the compaction of chromatin into higher order structures. This gene encodes a member of the histone H2A family, and generates two transcripts through the use of the conserved stem-loop termination motif, and the polyA addition motif.

### **Histone H2A.X Antibody (S139) - References**

Differences in the kinetics of gamma-H2AX fluorescence decay after exposure to low and high LET radiation. Schmid TE, et al. *Int J Radiat Biol*, 2010 Aug. PMID 20569192.

Acetylation of H2AX on lysine 36 plays a key role in the DNA double-strand break repair pathway. Jiang X, et al. *FEBS Lett*, 2010 Jul 2. PMID 20488183.

H2AX phosphorylation screen of cells from radiosensitive cancer patients reveals a novel DNA double-strand break repair cellular phenotype. Vasireddy RS, et al. *Br J Cancer*, 2010 May 11. PMID 20461094.

High-resolution profiling of gammaH2AX around DNA double strand breaks in the mammalian genome. Iacovoni JS, et al. *EMBO J*, 2010 Apr 21. PMID 20360682.

Phosphorylation of histone H2A.X by DNA-dependent protein kinase is not affected by core histone acetylation, but it alters nucleosome stability and histone H1 binding. Li A, et al. *J Biol Chem*, 2010 Jun 4. PMID 20356835.