

Histone H2A.XY142ph antibody (pAb)

Catalog Nos: 61617, 61618

RRID: AB_2793704

Isotype: IgG

Application(s): DB, WB

Reactivity: Human, Wide Range Predicted

Volumes: 100 µl, 10 µl

Purification: Affinity Purified

Host: Rabbit

Molecular Weight: 15 kDa

Background: **Histone H2A.XY142ph** (H2A histone family member X) replaces conventional H2A in a subset of nucleosomes. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries that require DNA as a template. Histones thereby play a central role in transcriptional regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called the histone code, and nucleosome remodeling. Histone H2AX is 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.

Tyrosine phosphorylation at position 142 on Histone H2A.X is constitutive and is mediated by BAZ1B/WSTF. This mark distinguishes between apoptotic and DNA repair responses to genotoxic stress.

Immunogen: This antibody was raised against a peptide containing phospho-tyrosine 142 of human histone H2A.X.

Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:

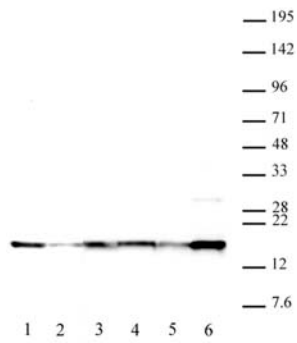
Applications Validated by Active Motif:

WB*: 1:500 - 1:1,000 dilution

*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



Histone H2A.XY142ph antibody (pAb) tested by Western blot.

25 µg of U2OS nuclear extract untreated (lanes 1, 3, 5) or treated with 5 µM camptothecin for 8 hours (lanes 2, 4, 6) probed with the indicated antibody.

Lanes 1 & 2: H2A.XY142ph antibody (pAb) at a 1:500 dilution (expected decrease with treatment).

Lanes 3 & 4: H2A.X antibody (pAb), catalog no 39689 at a 1:50,000 dilution (no change expected).

Lanes 5 & 6: H2A.XS139ph antibody (pAb), catalog no 39117 at a 1:20,000 dilution (increase expected with treatment).

Histone H2A.XY142ph antibody (pAb) tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H2A.XY142ph antibody for phospho Tyr142 of Histone H2A.X. Peptides corresponding to the immunogen and the unmodified version of the immunogen were spotted onto PVDF and probed with the antibody at 1:100,000. The amount of peptide (picomoles) spotted is indicated next to each row.

Lane 1: Phospho-Tyr142 peptide.

Lane 2: Unmodified Tyr142 peptide.

Lane 3: Phospho-Ser139 peptide.

Lane 4: Unmodified Ser139 peptide.

