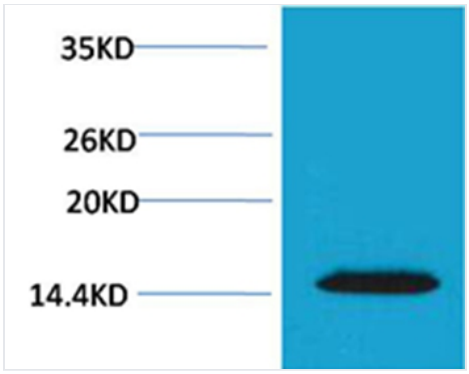
Histone H2a.x (H2AFX) Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	Histone H2A.X (H2AFX), Polyclonal Antibody
Full Product Name	Histone H2A.X(Phospho-Thr120) Rabbit Polyclonal Antibody
Product Gene Name	anti-H2AFX antibody
Product Synonym Names	H2A histone family member X antidoby; H2AFX antibody; H2AX Histoneh antibody; Histone H2AX antibody
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Rat, Mouse
Form/Format	Rabbit Antiserum, containing 0.02% sodium azide as Preservative and 50% Glycerol.
Purity/Purification	Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatogramphy using non-phosphopeptide.
Concentration	1.0 mg/ml (lot specific)
Specificity	The Histone H2A.X(Phospho Thr120) Rabbit Polyclonal Antibody detects endogenous Histone H2A.X(Phospho Thr120) protein.
Preparation and Storage	Store at -20 degree C
Molecular Weight	15,145 Da
OMIM	601772
3D Structure	ModBase 3D Structure for P16104
Immunogen Type	peptide
Immunogen Description	Peptide sequence around phosphorylation site of threonine 120(K-K-T(p)-S-A) derived from Human Histone H2A.X.
Modification	Phospho-Thr120
Target Name	Histone H2A.X(Phospho-Thr120)
Product Categories/Family for anti-H2AFX antibody	Phospho-specific Ab
Applications Tested/Suitable for anti-H2AFX antibody	Western Blot (WB)
Application Notes for anti-H2AFX antibody	Western blotting: 1:1000~1:2000
Related Product Information for anti-H2AFX antibody	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.
Other Notes	Small volumes of anti-H2AFX antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for H2AFX purchase	MBS9409014 is an antibody targeting H2AFX. Also known as Histone H2A.X(Phospho-Thr120) Rabbit Polyclonal Antibody. Reactive in Human, Rat, Mouse. Host: Rabbit.



Western Blot (WB) of anti-H2AFX antibody
Western blot analysis of extracts from Hela cells, using diluted at 1:2,000.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for H2AFX. It may not necessarily be applicable to this product.

NCBI GI #	4504253
NCBI GeneID	3014
NCBI Accession #	NP_002096.1
UniProt Primary Accession #	P16104
UniProt Secondary Accession #	Q4ZGJ7; Q6IAS5
UniProt Related Accession #	P16104
GenBank Nucleotide #	NM_002105.2
NCBI Official Full Name	histone H2AX
NCBI Official Synonym Full Names	H2A histone family, member X
NCBI Official Symbol	H2AFX
NCBI Official Synonym Symbols	H2AX; H2A.X; H2A/X
UniProt Protein Name	Histone H2AX
UniProt Synonym Protein Names	Histone H2A.X
UniProt Gene Name	H2AFX
UniProt Synonym Gene Names	H2AX; H2a/x
UniProt Entry Name	H2AX_HUMAN
NCBI Protein Information	histone H2AX
NCBI Summary for H2AFX	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. [provided by RefSeq, Jul 2008]

UniProt Comments for H2AFX	H2AX: a histone that replaces conventional H2A in a subset of nucleosomes. 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. 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. 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. Phosphorylated on S139 by ATM and DNA-PK in response to DNA double strand breaks (DSBs) generated by exogenous genotoxic agents and by stalled replication forks, and may also occur during meiotic recombination events and immunoglobulin class switching in lymphocytes. Phosphorylation can extend up to several thousand nucleosomes from the actual site of the DSB and may mark the surrounding chromatin for recruitment of proteins required for DNA damage signaling and repair. Widespread phosphorylation may also serve to amplify the damage signal or aid repair of persistent lesions. Dephosphorylation of S139 by PP2A is required for DNA DSB repair. Apparently phosphorylated on Y143 by WSTF, determining the relative recruitment of either DNA repair or pro-apoptotic factors. H2AXpY142 favors the recruitment of pro-apoptotic factors APBB1 and JNK1. In contrast, dephosphorylation of pY143 by EYA phosphatases favors the recruitment of MDC1-containing DNA repair complexes to the tail of phosphorylated pS139. Monoubiquitination of K119 by RING1 and RNF2/RING2 complex gives a specific tag for epigenetic transcriptional repression. Following DNA double-strand breaks (DSBs), it is ubiquitinated through 'K63' linkages by the E2 ligase UBE2N and the E3 ligases RNF8 and RNF168, leading to the recruitment of repair proteins to sites of DNA damage. Protein type: DNA repair, damage; DNA-binding; Helicase Chromosomal Location of Human Ortholog: 11q23.3 Cellular Component: male germ cell nucleus; XY body; nucleoplasm; chromosome, telomeric region; condensed nuclear chromosome; nuclear chromatin; replication fork; nucleosome; nucleus Molecular Function: protein binding; enzyme binding; DNA binding; histone binding; protein heterodimerization activity; damaged DNA binding Biological Process: nucleosome assembly; positive regulation of DNA repair; meiotic cell cycle; double-strand break repair; DNA damage checkpoint; spermatogenesis; response to ionizing radiation; DNA repair; response to DNA damage stimulus; double-strand break repair via homologous recombination
Research Articles on H2AFX	**1.** H2AX methylation plays a role in the regulation of gamma-H2AX abundance in cancer
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