ARG57257
anti-Histone H2A / H4 phospho (Ser1) antibody [RM216]

Package: 50 µg
Store at: -20°C

Summary

Product Description	Rabbit Monoclonal antibody [RM216] recognizes Histone H2A / H4 phospho (Ser1)
Tested Reactivity	Hu
Tested Application	ICC/IF, WB
Specificity	This antibody reacts to Histone H4 or Histone H2A phosphorylated at Serine 1. No cross reactivity with other phosphorylated Histones.
Host	Rabbit
Clonality	Monoclonal
Clone	RM216
Isotype	IgG
Target Name	Histone H2A / H4
Species	Others
Immunogen	An unmodified peptide corresponding to the N-terminus of Histone H3.
Conjugation	Un-conjugated
Alternate Names	Histone H2A.2; H2A.1; H2A.2; Histone H2A type 1-B/E; H2A/a; H2AFA; Histone H2A/m; Histone H2A/a

Application Instructions

Application table

Application	Dilution
ICC/IF	1 - 2 µg/ml
WB	0.5 - 2 µg/ml

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

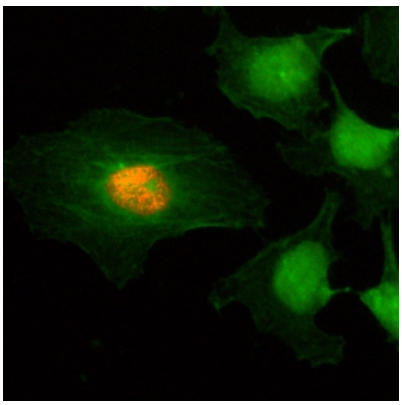
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.09% Sodium azide, 50% Glycerol and 1% BSA.
Preservative	0.09% Sodium azide
Stabilizer	50% Glycerol and 1% BSA
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

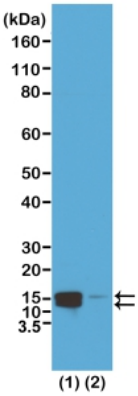
Database links	GeneID: 3012 Human Swiss-port # P04908 Human
Gene Symbol	HIST1H2AE
Gene Full Name	histone cluster 1, H2ae
Background	Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Nucleosomes consist of approximately 146 bp of DNA wrapped around a histone octamer composed of pairs of each of the four core histones (H2A, H2B, H3, and H4). The chromatin fiber is further compacted through the interaction of a linker histone, H1, with the DNA between the nucleosomes to form higher order chromatin structures. This gene is intronless and encodes a replication-dependent histone that is a member of the histone H2A family. Transcripts from this gene lack polyA tails; instead, they contain a palindromic termination element. This gene is found in the large histone gene cluster on chromosome 6p22-p21.3. [provided by RefSeq, Aug 2015]
Function	Core component of nucleosome. 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. [UniProt]
PTM	Deiminated on Arg-4 in granulocytes upon calcium entry. Monoubiquitination of Lys-120 (H2AK119Ub) by RING1, TRIM27 and RNF2/RING2 complex gives a specific tag for epigenetic transcriptional repression and participates in X chromosome inactivation of female mammals. It is involved in the initiation of both imprinted and random X inactivation. Ubiquitinated H2A is enriched in inactive X chromosome chromatin. Ubiquitination of H2A functions downstream of methylation of 'Lys-27' of histone H3 (H3K27me). H2AK119Ub by RNF2/RING2 can also be induced by ultraviolet and may be involved in DNA repair. Monoubiquitination of Lys-120 (H2AK119Ub) by TRIM27 may promote transformation of cells in a number of breast cancers (PubMed:25470042). Following DNA double-strand breaks (DSBs), it is ubiquitinated through 'Lys-63' linkage of ubiquitin moieties by the E2 ligase UBE2N and the E3 ligases RNF8 and RNF168, leading to the recruitment of repair proteins to sites of DNA damage. Ubiquitination at Lys-14 and Lys-16 (H2AK13Ub and H2AK15Ub, respectively) in response to DNA damage is initiated by RNF168 that mediates monoubiquitination at these 2 sites, and 'Lys-63'-linked ubiquitin are then conjugated to monoubiquitin; RNF8 is able to extend 'Lys-63'-linked ubiquitin chains in vitro. H2AK119Ub and ionizing radiation-induced 'Lys-63'-linked ubiquitination (H2AK13Ub and H2AK15Ub) are distinct events. Phosphorylation on Ser-2 (H2AS1ph) is enhanced during mitosis. Phosphorylation on Ser-2 by RPS6KA5/MSK1 directly represses transcription. Acetylation of H3 inhibits Ser-2 phosphorylation by RPS6KA5/MSK1. Phosphorylation at Thr-121 (H2AT120ph) by DCAF1 is present in the regulatory region of many tumor suppresor genes and down-regulates their transcription. Glutamine methylation at Gln-105 (H2AQ104me) by FBL is specifically dedicated to polymerase I. It is present at 35S ribosomal DNA locus and impairs binding of the FACT complex (PubMed:24352239). Symmetric dimethylation on Arg-4 by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage. Crotonylation (Kcr) is specifically present in male germ cells and marks testis-specific genes in post-meiotic cells, including X-linked genes that escape sex chromosome inactivation in haploid cells. Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. It is also associated with post-meiotically activated genes on autosomes.

Images



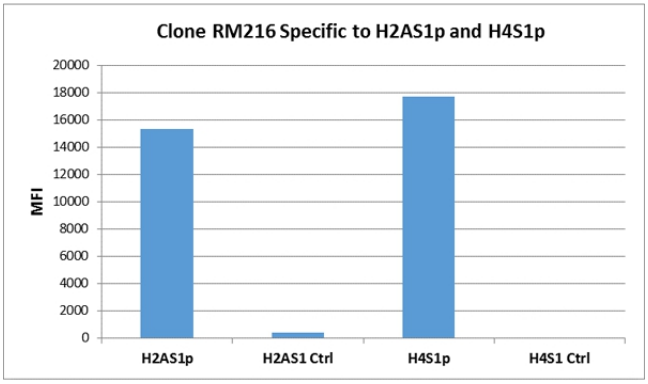
ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] ICC/IF image

Immunofluorescence: HeLa cells stained with ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] (red). Actin filaments have been labeled with fluorescein phalloidin (green).



ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] WB image

Western blot: Acid extracts of HeLa cells 1) treated or 2) non-treated with Nocodazole, stained with ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] at 0.5 µg/ml, showed both Histone H2A and H4 phosphorylated at Serine 1 in HeLa cells.



ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] Specificity test image

ARG57257 anti-Histone H2A/H4 phospho (Ser1) antibody [RM216] specifically reacts to both Histone H2A and H4 phosphorylated at Serine 1 (H2AS1p and H4S1p).