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Datasheet for 600-401-H36

H2AX phospho S139 Antibody

Overview

Description:	Anti-H2AX pS139 (RABBIT) Antibody - 600-401-H36
Item No.:	600-401-H36
Size:	100 µg
Applications:	ELISA, WB, Other
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	Histone H2A.X (phospho S139) antibody is ideal for western blotting and ELISA. Histones play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA is wrapped around histone-groups, consisting of the core histones H2A, H2B, H3 and H4. As a reaction on DNA Double-strand breaks (DSB) H2AX becomes phosphorylated on serine 139, called gamma-H2AX. ATM, ATR and PRKDCs, kinases of the PI3-family, are responsible for this phosphorylation. The modification can happen accidentally during replication fork collapse, exogenous genotoxic agents, may also occur during meiotic recombination events and immunoglobulin class switching in lymphocytes, in the response to ionizing radiation but also during controlled physiological processes such as V(D)J recombination. Mutagenesis experiments have shown that the modification is necessary for the proper formation of ionizing radiation induced foci in response to double strand breaks, but is not required for the recruitment of proteins to the site of DSBs. Gamma-H2AX is a sensitive target for looking at DSBs in cells. Dephosphorylation of Ser-140 by PP2A is required for DNA DSB repair. The role of the phosphorylated form of the histone in DNA repair is under. Anti-H2AX pS139 is ideal for researched interested in Histones, DNA Damage and Repair, and Epigenetics.
Synonyms:	rabbit anti-H2AX pS139 antibody, rabbit anti-Histone H2AX pS139 antibody, H2AFX antibody, H2a/x, H2A.x, H2AX, histone H2A, gamma-H2AX, H2A histone family member X antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	H2AFX
Reactivity:	Human
PTM Specificity:	Phosphorylation
Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-H2AX pS139 purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a phosphorylated synthetic peptide corresponding to the C-terminal region containing serine 139 of human H2AX protein.
Purity/Specificity:	H2AX pS139 is directed against the phosphorylated form of human H2AX protein at the pS139 residue. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross adsorbed against the non-phosphorylated form of the immunizing peptide. Reactivity with non-phosphorylated human H2AX is minimal by ELISA and western blot. A BLAST analysis was used to suggest 100% cross reactivity with H2AX from human based on the sequence homology with the immunogen. Reactivity against homologues from other sources is not known.
Relevant Links:	• GeneID - 3014 • UniProtKB - P16104 • NCBI - NP_002096.1

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	Other (Based on references)
Application Note:	Anti-H2AX pS139 antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 15 kDa in size corresponding to phosphorylated H2AX protein by western blotting in the appropriate stimulated tissue or cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000
WB:	1:1,000

Formulation

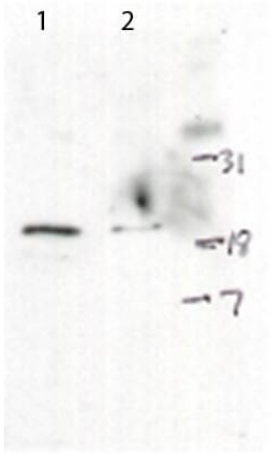
Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm

Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide

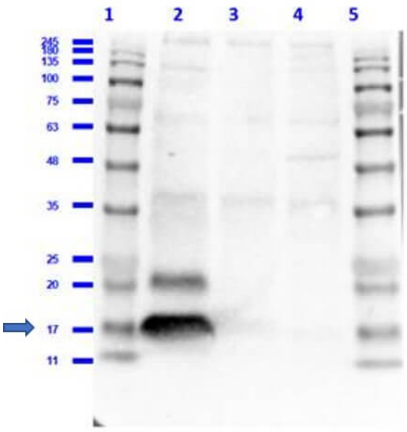
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store Histone H2A.X (phospho S139) antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot
Western Blot of Rabbit anti-H2AXpS139 antibody. Lane 1: HeLa Lysate stimulated with adriamycin (24 hr). Lane 2: HeLa Lysate unstimulated. Load: 35 µg per lane. Primary antibody: H2AXpS139 antibody at 1:1000 for overnight at 4°C. Secondary antibody: HRP rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 15.1 kDa, ~18 kDa for H2AXpS139. Other band(s): none.



Western Blot
Western Blot of Rabbit Anti-H2AX pS139 Antibody. Lane 1: Opal Prestained Molecular Weight Marker (p/n MB-210-0500). Lane 2: HEK293T Whole cell Lysate (p/n W09-001-GX5) [+]. Lane 3: MCF-7 Whole cell Lysate (p/n W09-000-360) [+]. Lane 4: U-87-MG Whole cell Lysate (p/n W09-001-GX2) [-]. Primary Antibody: Anti-H2AXpS139 at 5µg/mL overnight at 2-8°C. Secondary Antibody: Goat Anti-Rabbit IgG HRP (p/n 611-103-122) at 1:40,000 for 30 min at RT. Block: Universal Fluorescent Buffer (p/n MB-070) for 1hr at RT. Predicted MW: ~15kDa. Observed MW: ~17kDa. Exposure: 10sec.

References

- Rivera-Casas et al. Molecular and Biochemical Methods Useful for the Epigenetic Characterization of Chromatin-Associated Proteins in Bivalve Molluscs. *Frontiers in Physiology* (2017)

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