

# PRODUCT INFORMATION



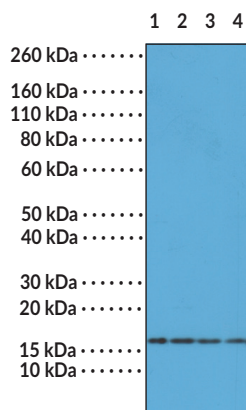
## Histone H2AX (C-Term) Monoclonal Antibody (Clone RM214)

Item No. 32183

### Overview and Properties

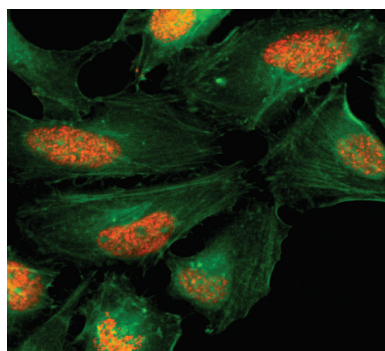
<b>Contents:</b>	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
<b>Synonym:</b>	H2A.X
<b>Immunogen:</b>	Peptide from the C-terminal region of human H2AX
<b>Cross Reactivity:</b>	(+) H2AX independent of PTMs; (-) Other histone proteins
<b>Species Reactivity:</b>	(+) Vertebrates
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Concentration:</b>	1 mg/ml
<b>Clone:</b>	RM214
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA, Immunocytochemistry (ICC), Multiplex-based assays, and Western blot (WB); the recommended starting concentration is 0.2-1 µg/ml for ELISA and multiplex-based assays, 1-2 µg/ml for ICC, and 0.5-2 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Lane 1: HeLa whole cell lysates  
Lane 2: HEK293 whole cell lysates  
Lane 3: A375 whole cell lysates  
Lane 4: SK-MEL-2 whole cell lysates

WB of A375, HEK293, HeLa, and SK-MEL-2 whole cell lysates using Histone H2AX (C-Term) Monoclonal Antibody (Clone RM214) at a concentration of 0.5 µg/ml.



Immunofluorescent labeling of HeLa cells labeled with Histone H2AX (C-Term) Monoclonal Antibody (Clone RM214) (red). Actin filaments are labeled with fluorescein phalloidin (green).

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Histone H2AX is a variant of histone H2A, a nuclear protein and a component of the nucleosome core.<sup>1,2</sup> It is a globular protein containing unstructured N- and C-terminal tails that extend outside of the nucleosome core that are subject to a variety of post-translational modifications (PTMs), including phosphorylation, acetylation, methylation, and ubiquitination, which function as epigenetic regulators of transcription.<sup>3,4</sup> H2AX has a key role in the DNA damage response.<sup>1,3-5</sup> It is phosphorylated at serine 139 ( $\gamma$ H2AX) by the PI3K-like kinases ATM, ATR, and DNA-PK in response to DNA damage, leading to changes in chromatin structure at the damaged site that promote DNA repair. H2AX has additional roles in chromatin inactivation during meiosis and mitosis, as well as neural stem cell development and cellular senescence.<sup>5</sup> Decreased tumor H2AX levels are associated with increased progression-free survival in patients with triple-negative breast cancer.<sup>6</sup> Cayman's Histone H2AX (C-Term) Monoclonal Antibody (Clone RM214) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications. The antibody recognizes the C-terminal region of histone H2AX independent of PTMs.

## References

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4. Corujo, D. and Buschbeck, M. Post-translational modifications of H2A histone variants and their role in cancer. *Cancers (Basel)* **10(3)**, 59 (2018).
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6. Gruosso, T., Mieulet, V., Cardon, M., *et al.* Chronic oxidative stress promotes H2AX protein degradation and enhances chemosensitivity in breast cancer patients. *EMBO Mol. Med.* **8(5)**, 527-549 (2016).

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