

PRODUCT INFORMATION



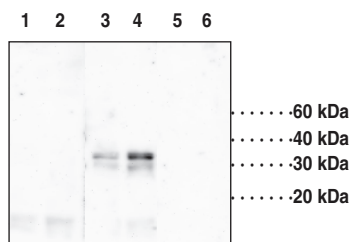
Histone H1.4 (Citrullinated R53) Polyclonal Antibody

Item No. 18073

Overview

Contents:	This vial contains 500 µl peptide affinity-purified polyclonal antibody.
Immunogen:	Synthetic peptide from human Histone H1.4 citrullinated at R53
Cross Reactivity:	(-) Non-citrullinated histone H1
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	P10412
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host:	Rabbit
Applications:	Western blot (WB); the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Citrullinated Core Histones (10 µg) + 10 µg/ml immunizing peptide
Lane 2: Citrullinated Core Histones (20 µg) + 10 µg/ml immunizing peptide
Lane 3: Citrullinated Core Histones (10 µg)
Lane 4: Citrullinated Core Histones (20 µg)
Lane 5: Core Histones (unmodified) (Item No. 11010) (10 µg)
Lane 6: Core Histones (unmodified) (Item No. 11010) (20 µg)

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

Citrullinated histone H1.4 is a citrullinated form of histone H1.4, a nuclear protein that interacts with linker DNA regions between nucleosomes to provide nucleosome core structure stabilization.¹ Histone H1 subtypes are comprised of a short N-terminal domain, a central globular domain necessary for DNA interaction, and long C-terminal domain that determines subtype binding properties by its variability. Histone H1.4 is expressed in most somatic cell types and is essential for survival of T47D and MCF-7 breast cancer cells and MCF-10A breast epithelial cells.²⁻⁴ It is subject to citrullination by protein-arginine deiminase 4 (PAD4) at arginine 54, which corresponds to arginine 53 of the immunizing peptide for Cayman's Histone H1.4 (Citrullinated R53) Polyclonal Antibody. Citrullination releases histone 1 from chromatin, leading to chromatin decondensation in mouse embryonic stem cells.⁵ Cayman's Histone H1.4 (Citrullinated R53) Polyclonal Antibody can be used for Western blot applications. The antibody recognizes citrullinated histone H1, and not unmodified H1, at 35 kDa from human samples.

References

1. Roque, A., Ponte, I., and Suau, P. Interplay between histone H1 structure and function. *Biochim. Biophys. Acta.* **1859(3)**, 444-454 (2016).
2. Öberg, C., Izzo, A., Schneider, R., et al. Linker histone subtypes differ in their effect on nucleosomal spacing *in vivo*. *J. Mol. Biol.* **419(3-4)**, 183-197 (2012).
3. Meergans, T., Albig, W., and Doenecke, D. Varied expression patterns of human H1 histone genes in different cell lines. *DNA Cell Biol.* **16(9)**, 1041-1049 (1997).
4. Sancho, M., Diani, E., Beato, M., et al. Depletion of human histone H1 variants uncovers specific roles in gene expression and cell growth. *PLoS Genet.* **4(10)**, e1000227 (2008).
5. Christophorou, M.A., Castelo-Branco, G., Halley-Stott, R.P., et al. Citrullination regulates pluripotency and histone H1 binding to chromatin. *Nature* **507(7490)**, 104-108 (2014).

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