

# PRODUCT INFORMATION

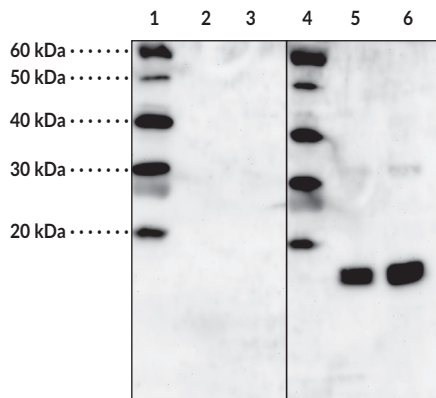


## Histone H3 (Citrullinated R2 + R8 + R17) Polyclonal Antibody Item No. 17855

### Overview and Properties

<b>Contents:</b>	This vial contains 500 µl of peptide affinity-purified IgG.
<b>Immunogen:</b>	Histone H3 peptide with citrullinations at R2, R8, and R17
<b>Cross Reactivity:</b>	(-) Non-citrullinated H3
<b>Species Reactivity:</b>	(+) Human; other species not tested
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
<b>Host:</b>	Rabbit
<b>Applications:</b>	ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Lane 1: MW Markers  
Lane 2: Recombinant human histone H3 (25 ng)  
Lane 3: Recombinant human histone H3 (50 ng)  
Lane 4: MW Markers  
Lane 5: Citrullinated human H3 (25 ng)  
Lane 6: Citrullinated human H3 (50 ng)

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 H3 is a nuclear protein and a component of the nucleosome core that is essential for organizing genomic DNA in eukaryotic nuclei.<sup>1</sup> It is a globular protein that contains an unstructured N-terminal tail that extends outside of the nucleosome core and is subject to various post-translational modifications, including citrullination. Histone H3 is subject to citrullination of arginine residues by peptidyl arginine deiminase 4 (PAD4) at positions 2, 8, 17 and 26, and this citrullination blocks methylation of these residues by protein-arginine methyltransferase 4 (PRMT4) and induces transcriptional repression of target genes. Citrullinated histone H3 is a component of neutrophil extracellular traps (NETs) that acts as an autoantigen to induce production of anti-citrullinated protein antibodies associated with various diseases such as sepsis, multiple sclerosis, rheumatoid arthritis, and multiple myeloma.<sup>1-4</sup> Cayman's Histone H3 (Citrullinated R2 + R8 + R17) Polyclonal Antibody can be used for ELISA and Western blot applications. The antibody recognizes citrullinated histone H3 at 16 kDa from human samples.

## References

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1. Xu, Y.-M., Du, J.-Y., and Lau, A.T.Y. Posttranslational modifications of human histone H3: An update. *Proteomics* **14(17-18)**, 2047-2060 (2014).
2. Li, Y., Liu, Z., Liu, B., *et al.* Citrullinated histone H3: A novel target for the treatment of sepsis. *Surgery* **156(2)**, 229-234 (2014).
3. Moscarello, M.A., Mastronardi, F.G., and Wood, D.D. The role of citrullinated proteins suggests a novel mechanism in the pathogenesis of multiple sclerosis. *Neurochem. Res.* **32**, 251-256 (2007).
4. McNee, G., Eales, K.L., Wei, W., *et al.* Citrullination of histone H3 drives IL-6 production by bone marrow mesenchymal stem cells in MGUS and multiple myeloma. *Leukemia* **31(2)**, 373-381 (2017).

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