

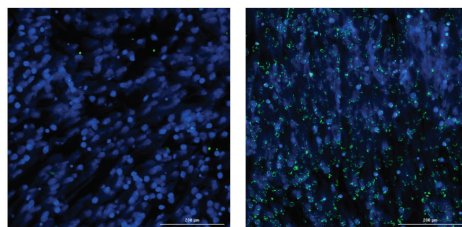
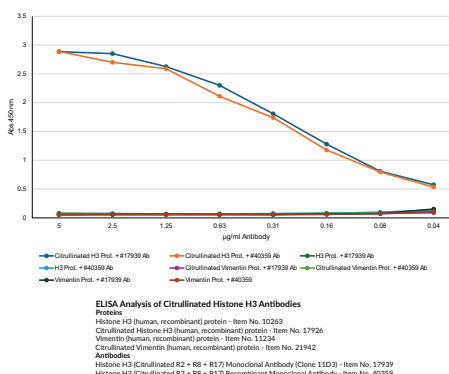
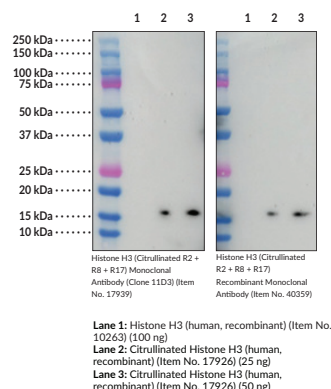
PRODUCT INFORMATION

Histone H3 (Citruillinated R2 + R8 + R17) Recombinant Monoclonal Antibody Item No. 40359

Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified IgG.
Preparation:	This antibody, which contains a mouse IgG isoform, was produced as a recombinant protein expressed in HEK293-derived cells using an engineered construct developed based on the Histone H3 (Citruillinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3).
Cross Reactivity:	(+) Citruillinated histone H3; (-) Histone H3, other citruillinated proteins
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	P68431
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	11D3
Host:	HEK293
Isotype:	IgG1
Applications:	ELISA and Western blot (WB), the recommended starting dilution for both applications is 1:1000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Primary neutrophils induced with 100nM PMA to produce neutrophil extracellular traps (NETs) were fixed with 3.7% PFA and blocked with 5% normal goat serum. Cells were probed with a mouse IgG1 isotype control (A) or the Histone H3 (Citruillinated R2 + R8 + R17) Recombinant Monoclonal Antibody (Item No. 40359) at a 1:200 dilution (B) followed by Goat Anti-Mouse (IgG+IgM) FITC secondary antibody (Item No. 10006617). Cell nuclei were stained with DAPI.

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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PRODUCT INFORMATION



Description

Histone H3 is a nuclear protein and a component of the nucleosome core that is essential for organizing genomic DNA in eukaryotic nuclei.¹ 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. Histone H3 is subject to citrullination by protein-arginine deiminase 4 (PAD4) at arginine 2 (R2), R8, and R17 during neutrophil extracellular trap formation (NETosis).² Citrullination of histone H3 at these residues reduces the positive charge of histone H3 and leads to decondensed chromatin, which is expelled into the extracellular space when the neutrophil membrane ruptures.^{2,3} 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.^{1,4-6} Increased serum levels of histone H3 citrullinated at R2, R8, and R17 have been found in patients with asthma and in septic shock patients where they are positively associated with a sequential organ failure assessment (SOFA) score and poor survival.^{7,8} Sputum levels of histone H3 citrullinated at R2, R8, and R17 are increased in patients with rheumatoid arthritis, as well as in individuals identified as at risk for developing rheumatoid arthritis based on their seropositivity for IgA anti-citrullinated protein antibodies (ACPAs).⁹ Cayman's Citrullinated Histone H3 (R2 + R8 + R17) Recombinant Monoclonal Antibody, which contains a mouse IgG isoform, was produced as a recombinant protein expressed in HEK293-derived cells using an engineered construct developed based on the Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3). This antibody can be used for ELISA and Western blot (WB) applications.

References

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. Wang, Y., Li, M., Stadler, S., *et al.* Histone hypercitrullination mediates chromatin decondensation and neutrophil extracellular trap formation. *J. Cell Biol.* **184**(2), 205-213 (2009).
3. Li, M., Lin, C., Leso, A., *et al.* Quantification of citrullinated histone H3 bound DNA for detection of neutrophil extracellular traps. *Cancers (Basel)* **12**(11), 3424 (2020).
4. 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).
5. 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**(2), 251-256 (2007).
6. 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).
7. Kuczia, P., Zuk, J., Iwaniec, T., *et al.* Citrullinated histone H3, a marker of extracellular trap formation, is increased in blood of stable asthma patients. *Clin. Transl. Allergy* **10**, 31 (2020).
8. Tian, Y., Russo, R.M., Li, Y., *et al.* Serum citrullinated histone H3 concentrations differentiate patients with septic versus non-septic shock and correlate with disease severity. *Infection* **49**(1), 83-93 (2021).
9. Okamoto, Y., Devoe, S., Seto, N., *et al.* Association of sputum neutrophil extracellular trap subsets with IgA anti-citrullinated protein antibodies in subjects at risk for rheumatoid arthritis. *Arthritis Rheumatol.* **74**(1), 38-48 (2022).

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