

PRODUCT INFORMATION

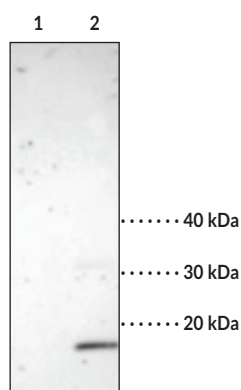


Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) Item No. 17939

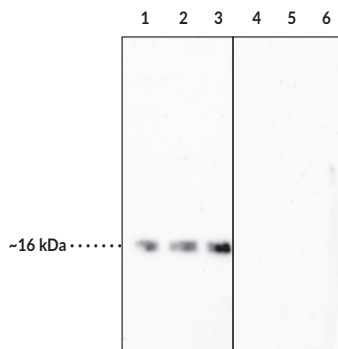
Overview and Properties

| | |
|----------------------------|--|
| Contents: | This vial contains 100 µg protein G-purified IgG |
| Immunogen: | Histone H3 peptide with citrulline at R2, R8, and R17 |
| Cross Reactivity: | (-) Non-citrullinated histone H3 |
| 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: | Mouse |
| Isotype: | IgG1K |
| Applications: | ELISA and Western blot; the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

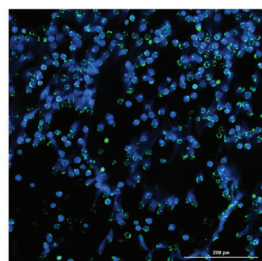
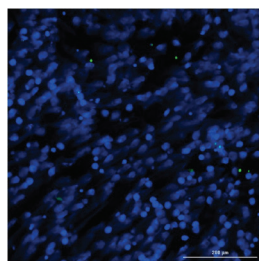
Images



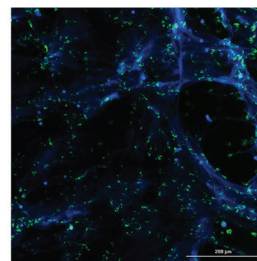
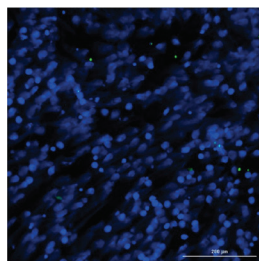
Lane 1: Bovine core histones
Lane 2: Citrullinated core histones



Lane 1: Citrullinated Human H3 (10 ng)
Lane 2: Citrullinated Human H3 (25 ng)
Lane 3: Citrullinated Human H3 (50 ng)
Lane 4: Histone H3 (human, recombinant) (Item No. 10263) (10 ng)
Lane 5: Histone H3 (human, recombinant) (Item No. 10263) (25 ng)
Lane 6: Histone H3 (human, recombinant) (Item No. 10263) (50 ng)



Primary neutrophils induced with 100 nM 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 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) (Item No. 17939) 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.



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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.

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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. 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 Cayman's Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) can be used for ELISA and Western blot applications. The antibody recognizes citrullinated histone H3 at approximately 16 kDa from human samples.

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. 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(2)**, 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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