PRODUCT INFORMATION

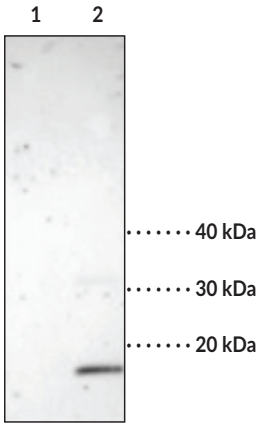
Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3)

Item No. 17939

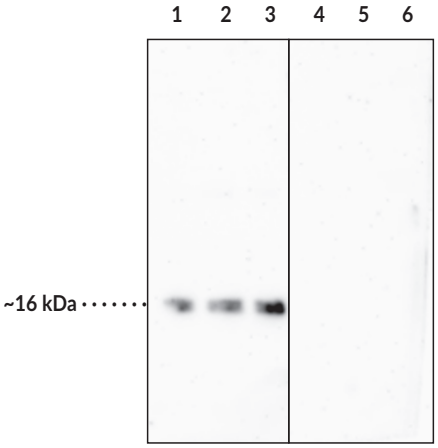
Overview and Properties

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)

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.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM