PRODUCT INFORMATION

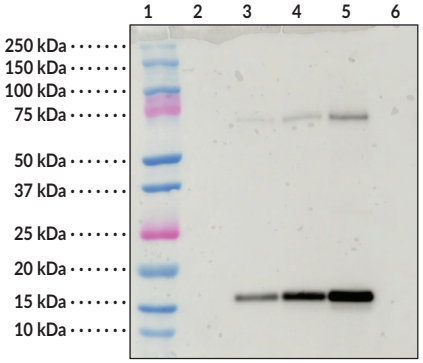
Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody - Biotinylated (Clone 11D3)

Item No. 44743

Overview and Properties

Contents:	This vial contains 100 µg of biotinylated protein G-purified monoclonal antibody.
Immunogen:	Histone H3 peptide with citrulline at R2, R8, and R17
Cross Reactivity:	(+) Citrullinated histone H3; (-) Non-citrullinated histone
Species Reactivity:	(+) Human; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥2 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 (WB); the recommended starting dilution is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Bio-Rad Precision Plus Protein Dual Color Standard
Lane 2: Histone H3 (200 ng)
Lane 3: Citrullinated Histone H3 (50 ng)
Lane 4: Citrullinated Histone H3 (100 ng)
Lane 5: Citrullinated Histone H3 (200 ng)
Lane 6: Histone H4 (200 ng)

WB detection of histone samples using Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) - Biotinylated and streptavidin-HRP. Residual biotinylated PAD4 in the citrullinated samples was also detected.

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

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 (ACPAs) associated with various diseases such as sepsis, multiple sclerosis, rheumatoid arthritis, and multiple myeloma.[1,4,5,6] 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 ACPAs.[9] Cayman's Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) - Biotinylated can be used for ELISA and Western blot (WB) applications.

References

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