

PRODUCT INFORMATION



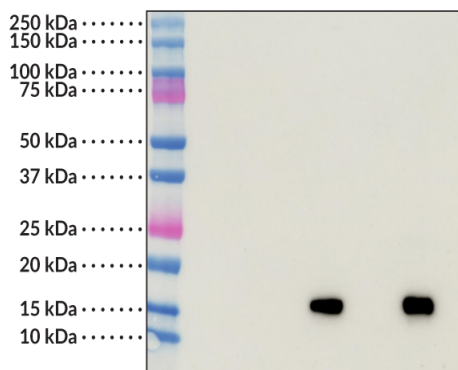
Citrullinated Histone H3 Immunoaffinity Resin

Item No. 44657

Overview and Properties

| | |
|----------------------------|---|
| Contents: | This vial contains 200 μ l of sepharose coupled to a histone H3 (Citrullinated R2 + R8 + R17) monoclonal antibody (Clone 11D3) |
| Synonyms: | Citrullinated Histone H3 Immunoaffinity Beads, Citrullinated Histone H3 Immunoaffinity Sorbent |
| Cross Reactivity: | (+) Citrullinated histone H3 |
| Species Reactivity: | (+) Human; other species not tested |
| Uniprot No.: | P68431 |
| Form: | Liquid |
| Storage: | 4°C (as supplied) |
| Stability: | \geq 2 years |
| Storage Buffer: | PBS, pH 7.2, with 0.02% sodium azide |
| Clone: | 11D3 |
| Host: | Mouse |
| Isotype: | IgG1K |
| Applications: | Suitable for immunoprecipitation (IP); the recommended starting amount is 40 μ l slurry per test with further optimizations determined empirically. |

Image



Lane 1: Histone H3 Input (100 ng)
Lane 2: Histone H3 Flow Through
Lane 3: Histone H3 Elution
Lane 4: Citrullinated Histone H3 Input (100 ng)
Lane 5: Citrullinated Histone H3 Flow Through
Lane 6: Citrullinated Histone H3 IP Elution

Immunoprecipitation of Citrullinated Histone H3. Histone H3 (human, recombinant) (Item No. 10263) and Citrullinated Histone H3 (human, recombinant) (Item No. 17926) were immunoprecipitated using 40 μ l (20 μ l bead volume) of Citrullinated Histone H3 Immunoaffinity Sorbent (Item No. 44657). The immunoprecipitated materials were loaded onto an SDS-PAGE gel, transferred to nitrocellulose, and probed with Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) (Item No. 17939).

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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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

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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. 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 Citrullinated Histone H3 Immunoaffinity Resin is designed for immunoprecipitation (IP) of citrullinated histone H3 from biological samples. This is an effective way to concentrate citrullinated histone H3 for subsequent detection and analysis by Western blot (WB). The citrullinated histone H3 immunoaffinity resin consists of Cayman's Histone H3 (Citrullinated R2 + R8 + R17) Monoclonal Antibody (Clone 11D3) (Item No. 17939) coupled to Sepharose.

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