

PRODUCT INFORMATION

Citrullinated Histone H4 (human, recombinant; His-tagged)

Item No. 38258

Overview and Properties

Source: Recombinant human N-terminal His-tagged histone H4 expressed in *E. coli*, citrullinated with recombinant human PAD4

Amino Acids: 1-103 (full length)

Uniprot No.: P62805

Molecular Weight: 13.4 kDa

Storage: -80°C (as supplied)

Stability: ≥1 year

Purity: ≥80% estimated by SDS-PAGE

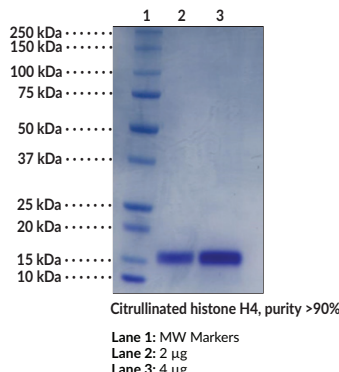
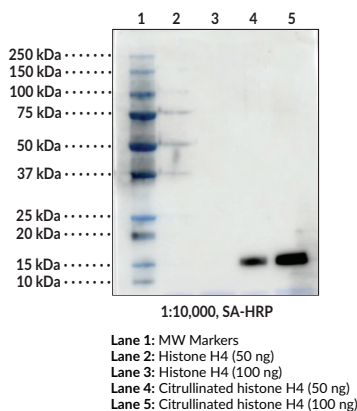
Supplied in: 100 mM Tris, pH 7.4, with 10% glycerol

Protein

Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Site	Modification	Best Ascore	Localization Probability	65875 SpC
R17	Deamidated	1,000.00	1	1
R24	Deamidated	1,000.00	1	1
R44	Deamidated	116.83	1	18
R56	Deamidated	1,000.00	1	5
R57	Deamidated	1,000.00	1	2
R60	Deamidated	1,000.00	1	2
R61	Deamidated	1,000.00	1	3
R66	Deamidated	1,000.00	1	7
R76	Deamidated	1,000.00	1	8
R88	Deamidated	79.89	1	1
R99	Deamidated	1,000.00	1	4
R113	Deamidated	1,000.00	1	2
R116	Deamidated	1,000.00	1	2



The target protein was detected with 96% sequence coverage.

There were 13 citrullinated sites detected, and the modified residues are indicated with a "d" above the Arg residue. The following table lists the sites along with the best Ascore, localization probability, and the number of spectra (SpC) providing evidence for each site.

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.

Copyright Cayman Chemical Company, 04/30/2026

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 H4 is one of four core histone proteins that is involved in the organization of DNA into chromatin.¹ Histones are subject to a variety of post-translational modifications (PTMs), such as methylation, acetylation, and citrullination, that can influence chromatin structure and regulate gene transcription. Histone H4 can be citrullinated at the arginine residue at position 3 (H4R3) by peptidyl arginine deiminase 4 (PAD4; Item No. 10500).² Citrullination of H4R3 increases in U2OS cells following induction of DNA damage by adriamycin (doxorubicin; Item No. 15007) and is localized near fragmented nuclei.³ H4R3 citrullination is associated with smaller tumor size and inversely associated with p53 levels in tumor tissue samples derived from patients with non-small cell lung cancer (NSCLC). Citrullinated histone H4 is present in neutrophil extracellular traps (NETs) generated by stimulation of granulocytes with phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) and can be recognized by autoantibodies present in the serum of patients with rheumatoid arthritis.⁴ This product contains purified histone H4 (human, recombinant; His-tagged) (Item No. 38257) that has been modified with PAD4, which is subsequently depleted by affinity chromatography.

References

1. 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).
2. Fuhrmann, J. and Thompson, P.R. Protein arginine methylation and citrullination in epigenetic regulation. *ACS Chem. Biol.* **11**(3), 654-668 (2016).
3. Tanikawa, C., Espinosa, M., Suzuki, A., *et al.* Regulation of histone modification and chromatin structure by the p53-PADI4 pathway. *Nat. Commun.* **3**:676, (2012).
4. Pratesi, F., Dioni, I., Tommasi, C., *et al.* Antibodies from patients with rheumatoid arthritis target citrullinated histone 4 contained in neutrophils extracellular traps. *Ann. Rheum. Dis.* **73**(7), 1414-1422 (2014).

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