

# PRODUCT INFORMATION



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

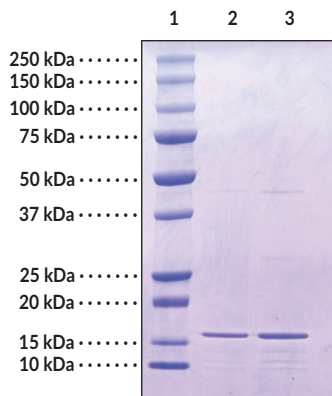
Item No. 38257

### Overview and Properties

**Source:** Recombinant human N-terminal His-tagged histone H4 expressed in *E. coli*  
**Amino Acids:** 1-103  
**Uniprot No.:** P62805  
**Molecular Weight:** 13.4 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥6 months  
**Purity:** *batch specific* (≥80% estimated by SDS-PAGE)  
**Supplied in:** A solution in water  
**Protein**  
**Concentration:** *batch specific* mg/ml

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

### Image



Lane 1: MW Markers  
Lane 2: Histone H4 (2 µg)  
Lane 3: Histone H4 (4 µg)

SDS-PAGE Analysis of Histone H4.

*Representative gel image shown; actual purity may vary between each batch.*

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  
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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

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Histone H4 is one of four core histone proteins that are involved in the organization of DNA into chromatin.<sup>1</sup> Histones are globular proteins with unstructured N-terminal tails and are subject to a variety of post-translational modifications (PTMs), such as methylation, acetylation, phosphorylation, and citrullination, that can influence chromatin structure and regulate gene transcription.<sup>1,2</sup> Histone H4 PTMs function as epigenetic regulators of transcription by affecting chromatin structure and enhancing transcription factor binding, as well as play a key role in the maintenance of genomic integrity.<sup>3,4</sup> Levels of histone H4 are increased in the inferior and middle temporal gyrus in postmortem brains from patients with Alzheimer's disease.<sup>5</sup>

## References

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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. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49**(4), e324 (2017).
3. Vettese-Dadey, M., Grant, P.A., Hebbes, T.R., *et al.* Acetylation of histone H4 plays a primary role in enhancing transcription factor binding to nucleosomal DNA *in vitro*. *EMBO J.* **15**(10), 2508-2518 (1996).
4. Jørgensen, S., Schotta, G., and Sørensen, C.S. Histone H4 Lysine 20 methylation: Key player in epigenetic regulation of genomic integrity. *Nucleic Acids Res.* **41**(5), 2797-2806 (2013).
5. Narayan, P.J., Lill, C., Faull, R., *et al.* Increased acetyl and total histone levels in post-mortem Alzheimer's disease brain. *Neurobiol. Dis.* **74**, 281-294 (2015).