

# PRODUCT INFORMATION



## Carbamylated Core Histones (bovine)

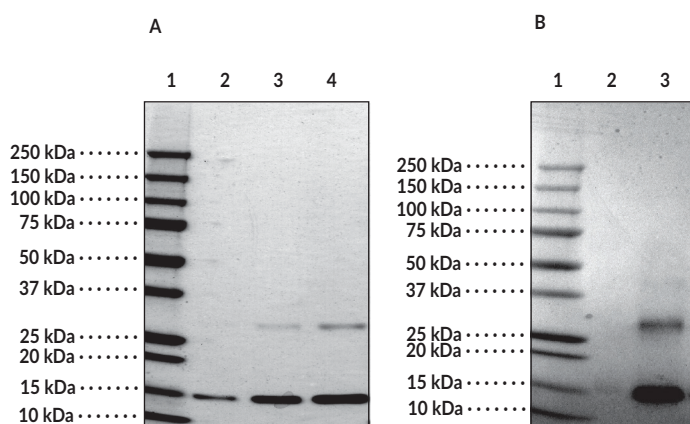
Item No. 21076

### Overview and Properties

**Synonym:** Ca-Core Histones (bovine)  
**Source:** Histones from calf thymus modified with potassium cyanate  
**Storage:** -20°C (as supplied)  
**Stability:** ≥2 years  
**Purity:** ≥95% estimated by SDS-PAGE  
**Supplied in:** *batch specific*

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

### Images



**Panel A:** Analysis of carbamylated calf thymus stained with coomassie on 4-20% SDS-PAGE.

**Lane 1:** MW Markers

**Lane 2:** Carbamylated calf thymus histone (1 µg)

**Lane 3:** Carbamylated calf thymus histone (2 µg)

**Lane 4:** Carbamylated calf thymus histone (4 µg)

**Panel B:** Western blot analysis of calf thymus histone carbamylation.

**Lane 1:** MW Markers

**Lane 2:** Calf thymus histone

**Lane 3:** Carbamylated calf thymus histone

Calf thymus histone (lane 2) and carbamylated calf thymus histone (lane 3) were reacted with a biotin labeled probe specific for carbamylated lysines and run on 4-20% SDS-PAGE alongside MW markers (lane 1). The proteins were blotted to PVDF and detected using streptavidin-HRP.

*Representative gel image shown; actual purity may vary between each batch but protein will be ≥95% pure.*

**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

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Citrullination and carbamylation are two post-translational modifications that result in the generation of citrulline and homocitrulline, two highly related, non-standard amino acids. While citrullination of arginine is catalyzed by peptidylarginine deiminases (PADs), homocitrulline results from the non-enzymic reaction of cyanate with lysine. Carbamylation occurs at low levels in healthy individuals, but at higher levels in several clinical conditions such as atherosclerosis, kidney disease, and inflammation.<sup>1-3</sup> Carbamylation can lead to changes in protein function, cellular function, and generation of an immune response to homocitrulline containing proteins.<sup>1-3</sup> This product contains a carbamylated mixture of H1, H2A, H2B, H3, and H4 histones isolated from calf thymus.

## References

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1. Shi, J., van Veelen, P.A., Mahler, M., *et al.* Carbamylation and antibodies against carbamylated proteins in autoimmunity and other pathologies. *Autoimmun. Rev.* **13(3)**, 225-230 (2014).
2. Pruijn, G.J.M. Citrullination and carbamylation in the pathophysiology of rheumatoid arthritis. *Front. Immunol.* **6**, 192 (2015).
2. Mastrangelo, A., Colasanti, T., Barbati, C., *et al.* The role of posttranslational protein modifications in rheumatological diseases: Focus on rheumatoid arthritis. *J. Immunol. Res.* **2015**, 712490 (2015).

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