

PRODUCT INFORMATION



Histone H2A (*Xenopus*, recombinant)

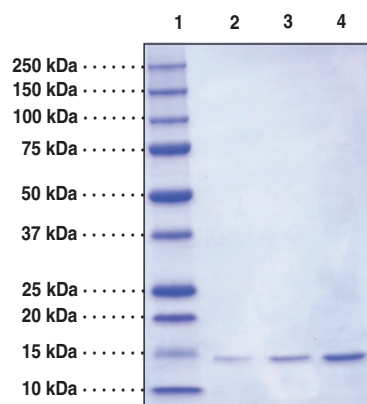
Item No. 10261

Overview and Properties

Source: Recombinant histone H2A expressed in *E. coli*
Amino Acids: 2-130 (full length)
Uniprot No.: P06897
Molecular Weight: 13.9 kDa
Storage: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein after resuspension
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied as: A lyophilized powder

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

Image



Lane 1: MW Markers
Lane 2: H2A (1 µg)
Lane 3: H2A (2 µg)
Lane 4: H2A (5 µg)

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.

Copyright Cayman Chemical Company, 02/09/2022

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 H2A is a core histone that forms a dimer with histone H2B.¹ Two histone H2A/H2B dimers form an octameric nucleosome with a histone H3/H4 tetramer, around which DNA wraps, allowing it to be condensed. Histone H2A can be post-translationally modified via methylation of the arginine at position 3 by protein arginine methyltransferase 1 (PRMT1), PRMT5, or PRMT6, which is associated with both transcriptional activation and repression.² When methylated by PRMT7, it is associated with DNA damage repair. The arginine residue at position 3 of histone H2A is also subject to citrullination by protein arginine deiminase 4 (PAD4). Histone H2A is ubiquitinated by ubiquitin-specific protease 12 (USP12) during the gastrula stage of *Xenopus* development.³ The post-translational modifications on histone H2A vary between each stage of *Xenopus* development and are enriched on nucleosomes in *Xenopus* embryos that contain both active and repressive histone modifications.⁴ Cayman's Histone H2A (*Xenopus*, recombinant) protein can be used as a substrate for enzyme activity assays, as well as for Western blot (WB) applications.

References

1. Eickbush, T.H. and Moudrianakis, E.N. The histone core complex: An octamer assembled by two sets of protein-protein interactions. *Biochemistry* **17(23)**, 4955-4964 (1978).
2. Fuhrmann, J. and Thompson, P.R. Protein arginine methylation and citrullination in epigenetic regulation. *ACS Chem. Biol.* **11(3)**, 654-668 (2016).
3. Joo, H.-Y., Jones, A., Yang, C., *et al.* Regulation of histone H2A and H2B deubiquitination and *Xenopus* development by USP12 and USP46. *J. Biol. Chem.* **286(9)**, 7190-7201 (2011).
4. Wang, W.-L., Anderson, L.C., Nicklay, J.J., *et al.* Phosphorylation and arginine methylation mark histone H2A prior to deposition during *Xenopus laevis* development. *Epigenetics Chromatin* **7**, 22 (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