PRODUCT INFORMATION

Histone H2A (*Xenopus*, recombinant)

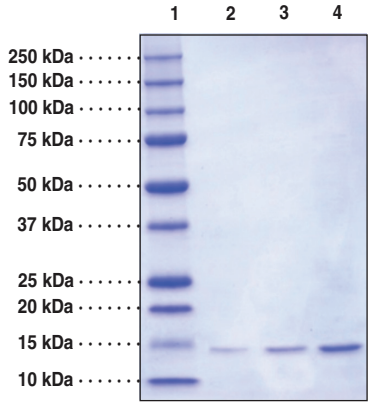
Item No. 10261

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.

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