SANTA CRUZ BIOTECHNOLOGY, INC.

# Histone cluster 1 H2BK (h): 293 Lysate: sc-110701



The Power to Question

## **BACKGROUND**

Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fiber. Two molecules of each of the four core histones (H2A, H2B, H3, and H4) form the octamer; formed of two H2A-H2B dimers and two H3-H4 dimers, forming two nearly symmetrical halves by tertiary structure. Over 80% of nucleosomes contain the linker Histone H1, derived from an intronless gene, that interacts with linker DNA between nucleosomes and mediates compaction into higher order chromatin. Histones are subject to posttranslational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Such modifications include methylation, citrullination, acetylation, phosphorylation, sumoylation, ubiquitination and ADP-ribosylation.

## **REFERENCES**

- Marzluff, W.F., Gongidi, P., Woods, K.R., Jin, J. and Maltais, L.J. 2002. The human and mouse replication-dependent histone genes. Genomics 80: 487-498.
- 2. Cheung, W.L., Ajiro, K., Samejima, K., Kloc, M., Cheung, P., Mizzen, C.A., Beeser, A., Etkin, L.D., Chernoff, J., Earnshaw, W.C. and Allis, C.D. 2003. Apoptotic phosphorylation of Histone H2B is mediated by mammalian sterile twenty kinase. Cell 113: 507-517.
- Zhu, B., Zheng, Y., Pham, A.D., Mandal, S.S., Erdjument-Bromage, H., Tempst, P. and Reinberg, D. 2005. Monoubiquitination of human Histone H2B: the factors involved and their roles in HOX gene regulation. Mol. Cell 20: 601-611.
- Tsunaka, Y., Kajimura, N., Tate, S. and Morikawa, K. 2005. Alteration of the nucleosomal DNA path in the crystal structure of a human nucleosome core particle. Nucleic Acids Res. 33: 3424-3434.
- Pavri, R., Zhu, B., Li, G., Trojer, P., Mandal, S., Shilatifard, A. and Reinberg,
  D. 2006. Histone H2B monoubiquitination functions cooperatively with
  FACT to regulate elongation by RNA polymerase II. Cell 125: 703-717.
- Siuti, N., Roth, M.J., Mizzen, C.A., Kelleher, N.L. and Pesavento, J.J. 2006. Gene-specific characterization of human Histone H2B by electron capture dissociation. J. Proteome Res. 5: 233-239.
- Bonenfant, D., Coulot, M., Towbin, H., Schindler, P. and van Oostrum, J. 2006. Characterization of Histone H2A and H2B variants and their post-translational modifications by mass spectrometry. Mol. Cell. Proteomics 5: 541-552.

## **CHROMOSOMAL LOCATION**

Genetic locus: HIST1H2BK (human) mapping to 6p22.1.

## **PRODUCT**

Histone cluster 1 H2BK (h): 293 Lysate represents a lysate of human Histone cluster 1 H2BK transfected 293 cells and is provided as 100  $\mu g$  protein in 200  $\mu l$  SDS-PAGE buffer.

# **APPLICATIONS**

Histone cluster 1 H2BK (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Histone cluster 1 H2BK antibodies. Recommended use:  $10-20 \mu l$  per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

## **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

### **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

# **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

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