Histone H1 (1-219): sc-4332 WB



The Power to Question

BACKGROUND

In eukaryotes, DNA is wrapped around histone octamers to form the basic unit of chromatin structure. The octamer is composed of histones H2A, H2B, H3 and H4 and it associates with approximately 200 base pairs of DNA to form the nucleosome. The association of DNA with Histones results in dense packing of chromatin, which restricts proteins involved in gene transcription from binding to DNA. Histone H1 is required for the condensation of nucleosome chains into higher order structures. Phosporylation of histone H1 is thought be involved in this process, although the exact nature of this role has yet to be elucidated. Evidence suggests that Histone H1 is a part of a general repressor mechanism for stable repression of transcription, but it can also activate transcription of specific genes.

REFERENCES

- Hohmann, P. 1983. Phosphorylation of H1 histones. Mol. Cell Biochem. 57: 81-92.
- 2. Doenecke, D., Tonjes, R., and Kress, H. 1988. The H1 and core histone subtypes: differential gene expression and varied primary structures. Adv. Enzyme Regul. 27: 107-120.
- 3. Lewin, B. 1990. GENES IV. Oxford: Oxford University Press, 411-412.
- Nilsson, P., Mannermaa, R.M., Oikarinen, J., and Grundstrom, T. 1992.
 DNA binding of histone H1 is modulated by nucleotides. FEBS Lett. 313: 67-70.
- Roth, S.Y. and Allis, C.D. 1992. Chromatin condensation: does histone H1 dephosphorylation play a role? Trends Biochem. 17: 93-98.
- 6. Wolffe, A.P. 1997. Histone H1. Int. J. Biochem. Cell Biol. 29: 1463-1466.
- 7. Wolffe, A.P., Khochbin, S., and Dimitrov, S. 1997. What do linker histones do in chromatin? Bioessays 19: 249-255.
- Gao, B., Jaffe, H., and Kunos, G. 1998. Histone H1 isoforms purified from rat liver bind nonspecifically to the nuclear factor 1 recognition sequence and serve as generalized transcriptional repressors. Mol. Cell Biochem. 178: 187-196.
- 9. Bustin, M., Catez, F., Lim, J.H. 2005. The dynamics of Histone H1 function in chromatin. Mol. Cell 17: 617-620.
- 10. Ganapathy, V., and Shyamala-Devi, C.S. 2005. Effect of Histone H1 on the cytosolic calcium levels in human breast cancer MCF 7 cells. Life Sci. 76: 2631-2641.
- Roque, A., Iloro, I., Ponte, I., Arrondo, J.L., and Suau, P. 2005. DNA-induced secondary structure of the carboxy-terminal domain of Histone H1. J. Biol. Chem. E-published ahead of print.

SOURCE

Histone H1 (1-219) is expressed in *E. coli* as a 51 kDa tagged fusion protein corresponding to amino acids 1-219 of Histone H1 of human origin.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

PRODUCT

Histone H1 (1-219) is purified from bacterial lysates (>98%) by column chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Histone H1 (1-219) is suitable as a Western blotting control for sc-8030, sc-8615, sc-8616 and sc-10806.

RESEARCH USE

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com