A Seminar Supported by Laboratory for Chromatin Dynamics

"Nucleosomal histone kinase-1 phosphorylates H2A Thr 119 during mitosis in the early Drosophila embryo."

講演者：　相原　仁

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日　時：　２００５年　２月２３日（水）
午後５時００分～午後６時００分

場　所：　Ａ棟６階セミナー室

要旨：

Posttranslational histone modifications are important for the regulation of many biological phenomena. Here, we show the purification and characterization of nucleosomal histone kinase-1 (NHK-1). NHK-1 has a high affinity for chromatin and phosphorylates a novel site, Thr 119, at the C terminus of H2A. Notably, NHK-1 specifically phosphorylates nucleosomal H2A, but not free H2A in solution. In Drosophila embryos, phosphorylated H2A Thr 119 is found in chromatin, but not in the soluble core histone pool. Immunostaining of NHK-1 revealed that it goes to chromatin during mitosis and is excluded from chromatin during S phase. Consistent with the shuttling of NHK-1 between chromatin and cytoplasm, H2A Thr 119 is phosphorylated during mitosis but not in S phase. These studies reveal that NHK-1-catalyzed phosphorylation of a conserved serine/threonine residue in H2A is a new component of the histone code that might be related to cell cycle progression.

（参照：Aihara H. *et al.*, **Genes & Dev.** 2004 Apr;18(8):877-88.）

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