第 16 回 RcMcD 融合研究セミナー
（5研究科共同セミナー）

演　題：全長 2m のヒトゲノム DNA はどのように細胞のなかに収納されているのか？
How is the long strand of human genome DNA organized in the cell?

講演者：前島　一博
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日　時：平成２８年１０月２１日（金）１４：３５～１６：０５

場　所：広島大学先端科学総合研究棟４０１N 講義室

【Abstract】

The DNA is wrapped around core histones, forming a nucleosome structure. Several recent evidences including our cryo-microscopy and synchrotron X-ray scattering analyses showed that chromatin in the cells mainly consists of irregularly folded nucleosome fibers without the regular 30-nm chromatin fiber. This irregular folding implies a less physically constrained and locally more dynamic chromatin state. Consistent with this notion, using the single nucleosome imaging, we uncovered the local nucleosome dynamics (“nucleosome fluctuation”) in live mammalian cells. Our simulation result suggested that the nucleosome fluctuation increases chromatin accessibility, which is advantageous for many “target searching” biological processes, such as RNA transcription, DNA replication and DNA repair/recombination. The relationship between chromatin structure and dynamics will be discussed.

Reference

Maeshima, K., Ide, S., Hibino, K., Sasai, M. Liquid-like behavior of chromatin. Current Opinion in Genetics and Development. (2016) 37:36–45

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