第１回　初期発生学セミナー

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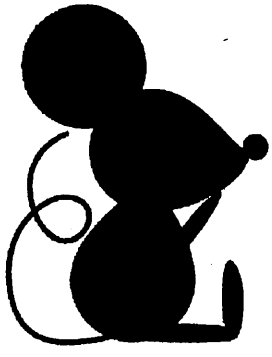
# Hypersensitive nucleosomes in chromatin are intrinsic to the structure of active, tissue-specific enhancers

2014 年 5 月 26 日　月曜日
16:00～17:00
藤井節郎記念医科学センター　3 階セミナー室

Distal enhancer sequences regulate promoters in higher eukaryotes, yet little is understood about the structural features in chromatin that distinguish enhancers and promoters. Active enhancers and promoters bind transcription factors and exist in open chromatin. Genome-wide micrococcal nuclease (MNase) studies interpreted MNase hypersensitivity to indicate that active enhancers and promoters are nucleosome-free, yet other genomic studies found particular histone variants and modifications at active enhancers. We find that prior MNase genomic studies had an overdigestion bias and that low-level MNase digestion, coupled with mapping core histones, reveals two classes of MNase-hypersensitive sites: at active promoters, which are nucleosome depleted, and at tissue-specific enhancers, which retain core histones substantially more than promoters along with co-bound transcription factors. Hypersensitivity of active enhancer nucleosomes may reflect their preferential exposure in chromatin and can be maintained by pioneer transcription factors such as FoxA. These findings unveil fundamental differences in the chromatin structure of active enhancers and promoters.

（発表は日本語で行っていただきます）



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