総合生命科学部  生命科学セミナー

# RNA ポリメラーゼ II の転写伸長メカニズムの 1 分子解析


演 者: 石橋 豊隆 博士

Assistant Professor, Division of Life Sciences,
Hong Kong University of Science and Technology (香港科技大学)


要 旨:


Transcription of DNA by RNA Polymerase II (Pol II), being the first step in producing proteins that are critical to the survival of the cell, represents a common target for regulating gene expression. Despite many years of intense study, there remain many unresolved questions regarding the physical mechanisms underlying eukaryotic transcriptional regulation. Often, as in the case of epigenetic transcriptional silencing, transcriptional repression of Pol II is mediated through the nucleosome. We used a dual-trap optical tweezers instrument to quantitatively describe real-time transcription elongation dynamics through the nucleosome. Here, I will discuss how the histone tails and the specific histone-DNA contacts contribute to the strength of the mechanical barrier posed by the nucleosome during transcription elongation by Pol II. These findings shed light on the mechanistic details underlying the control of gene expression by chromatin remodeling and transcription factors.


日 時: 2014 年 4 月 17 日 午後 2 時～3 時

場 所: 15 号館 1 階 15102 セミナー室

世話人: 生命資源環境学科 木村成介 (075-705-3113)

主催：京都産業大学総合生命科学部