TSUKUBA MOLECULAR LIFE SCIENCE SEMINAR

演題: Epigenetic Control of Chromatin-Dependent Transcription - Lessons from p53, AP-1, Brd4 and HPV

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日時: 2013年12月5日（木）17:00-18:30
会場: イノベーション棟 8階講堂 (This seminar will be held in English)

要旨: Transcription in higher eukaryotes is controlled by an array of transcription factors, including the general transcription machinery, general cofactors, and gene-specific activators and repressors. The complexity of gene regulation is further conferred by the existence of multiple protein family members recognizing consensus or non-canonical DNA-binding sequences. The chromatin structure in the human genome and posttranslational modification on protein molecules provide an additional level of control in modulating gene activity. In this lecture, I will review these control mechanisms using human papillomavirus (HPV) E6 and E2 proteins as examples to illustrate how DNA tumor virus-encoded transcriptional regulators are able to reprogram cellular activities by targeting p53 tumor suppressor protein and activator protein-1 (AP-1), respectively, via recruitment of distinct coregulators, such as p300 histone acetyltransferase and the chromatin adaptor bromodomain-containing protein 4 (Brd4). The interplay among these viral and cellular proteins and the crosstalk between different posttranslational modifications regulate gene activity in response to various environmental stresses.

参考文献
   Genes Dev. 20: 2383-2396.

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