

第75回生命科学先端研究センター 学術セミナー

日時：平成23年12月12日(月) 午後5時から

場所：杉谷キャンパス薬学部研究棟Ⅱ 7階セミナー室8

講師：Jerry L. Workman 先生

(Stowers Institute for Medical Research)



演題：「Signaling to and through chromatin for transcriptional regulation」

ABSTRACT:

I will present two stories which illustrate how histone modifications and histone modifying complexes participate in signaling for gene transcription. The first story is from experiments in budding yeast which shows how elongating RNA polymerase II signals to restore the structure of chromatin behind it. This is accomplished by signaling for histone deacetylation and by preventing the incorporation of new histones into transcribed regions. The second story comes from studies in fruit flies, where a novel metazoan histone acetyltransferase complex was discovered. This complex, termed ATAC, was found to act as a positive co-factor from genes activated by the c-jun transcription factor. C-jun is activated by MAP kinase signaling. Surprisingly ATAC also regulates the level of upstream MAP kinase signaling to govern the transcriptional response to these signals.

References:

1. Suganuma, T., and Workman, J.L. (2011) Signals and combinatorial functions of histone modifications. *Ann. Rev. Biochem.*, 80: 473-499.
2. Suganuma, T., Mushegian, A., Swanson, S.K., Abmayrm, S.M., Florens, L., Washburn, M.P., Workman, J.L. (2010) The ATAC acetyltransferase complex coordinates MAP kinases to regulate JNK target genes. *Cell* 142: 726-736.
3. Weake, VM, Dyer JO, Seidel C, Box A, Swanson SK, Peak A, Florens L, Washburn MP, Abmayr SM, Workman JL, (2011) Post-transcription initiation function of the ubiquitous SAGA complex in tissue-specific gene activation. *Genes Dev* 25: 1499-509.

Workman博士は、真核細胞の細胞核内のクロマチンとエピジェネティクスによる遺伝子発現研究の第一人者であります。皆様、奮って御参加ください。

※本セミナーは、大学院医学薬学教育部の単位認定の対象となります。多数の教職員・学生の来聴を歓迎します。

◎問い合わせ先

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