NCGG SEMINAR

"Chromatin at the cross roads of stem cell homeostasis, genome maintenance, and DNA damage control"

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Time and Date: at 13:00 ~ 13:45
on 25 Jun, 2014 (Wed)

Room: The 2nd floor conference room
in the 2nd Research building at NCGG

<reference for seminar>

The accurate maintenance of genomic and epigenetic information is a critical aspect of cellular homeostasis and tightly linked to functional decline in aging and disease. Here, I will summarize our recent work demonstrating a dual role for the (histone) deactylase Sirt1 in stem and progenitor cell maintenance, both via epigenetic regulation of a key developmental gene and by promoting genome stability in adult stem cells. I will further discuss how an unexpected, DNA double-strand break (DSB)-associated reorganization of chromatin can regulate genome integrity by modulating repair factor choice, and, hence DSB repair outcome. Together, this work emphasizes the many facets of tightly regulated chromatin maintenance in the cellular response to genotoxic stress.

*Sirt1 ablation promotes stress-induced loss of epigenetic and genomic hematopoietic stem and progenitor cell maintenance.
Singh SK, Williams CA, Klarmann K, Burkett SS, Keller JR, Oberdörffer P. 210(5):987-1001.*J Exp Med*. 2013

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