



Seminar/Talk

How cell fate decisions are maintained by Polycomb Repressive Complexes

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Host: Simon Hippenmeyer

Transcriptional silencing by Polycomb group (PcG) proteins is a major paradigm for epigenetic inheritance from fly to human. The Polycomb Repressive Complexes PRC1 and PRC2 catalyse distinct chromatin modifications to enforce gene silencing. However, the mechanisms underlying the inheritance of transcriptional silencing by different PRC complexes are not known. Addressing this question has been extremely challenging due to technical limitations that do not discern the initiation from sequence-independent maintenance of repression. We have solved this problem by developing an approach to reversibly recruit PRC1 or PRC2 to transcriptionally inactive or active chromatin in mouse embryonic stem cells. For the first time, we directly and systematically interrogate the ability of different PcG complexes to (1) form repressive chromatin structure, (2) initiate gene silencing, and (3) maintain silencing. I will present an unexpected division of labour between different PRC1 and PRC2 complexes in epigenetic silencing.

Wednesday, April 25, 2018 01:00pm - 02:00pm

Seminar Room, Lab Building East



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