CDB SEMINAR

Speaker: Colin Goding

< Marie Curie Research Institute>

Title: "Control of proliferation and senescence in melanocytes and melanoma"

Date:	**Monday, March 7**
Time:	**16:00 -17:00**
Place:	**7F Conference Room of Building A,CDB**

Summary:
How cell fate decisions and differentiation are integrated with the cell cycle in response to extracellular cues is a key issue relevant to both development and cancer. Cell identity is achieved through the action of networks of transcription factors that coordinate cell type specific gene expression with the cell cycle machinery. The deregulation of transcription through aberrant signalling can lead to oncogenic transformation and cancer. The commitment of cells in the neural crest to the melanocyte lineage and the proliferation and migration of melanoblasts to the epidermis and hair follicles represents an excellent model system for understanding how the coordination of proliferation and differentiation are achieved. Importantly, the same signalling pathways that play a critical role during melanocyte development are de-regulated in melanoma, an aggressive and increasingly common cancer. We have identified a transcription factor cascade in the melanocyte lineage that responds both to MAP kinase and beta-catenin signalling and which controls both proliferation and differentiation of melanocytes. This cascade, in which the POU domain factor Brn-2 represses expression of the bHLH-LZ factor Mitf that in turn can activate expression of the T-box gene Tbx2, also regulates proliferation and suppresses senescence in melanoma. The results presented will highlight the close links between control of developmental decisions and oncogenic transformation.

Host: Shin-Ichi Nishikawa <Stem Cell Biology, CDB>
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