



Life Sciences Seminar

Insm1 induces neural progenitor delamination in developing neocortex via down-regulation

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Basal progenitors (BPs) are essential neuronal precursors that serve as an intermediate between highly proliferative apical progenitors and post-mitotic neurons. Moreover, the increase in the proliferative capacity of BPs is considered a key evolutionary feature underlying the expansion of the human neocortex. Despite the significance of BPs in neocortical development, several aspects of BP biology are still unknown. For example, how is BP production controlled molecularly.

Previously, Insm1 was identified as a transcription factor important for BP production. Here, we discover that Insm1 induces delamination of neural progenitors from the ventricular surface, a step that is fundamental for BP production. Moreover, we find that Insm1 down-regulates genes important for the homeostasis of the adherens junction-belt and, therefore, possibly involved in the process of delamination, including the adherens junction-associated protein Plekha7. Through in vivo CRISPR-mediated KO, we further demonstrate that Plekha7 is necessary to prevent delamination of neural progenitors. Our findings uncover a novel molecular regulatory mechanism for controlling BP production during neocortical development.

Wednesday, January 25, 2017 01:00pm - 02:00pm

Meeting room on Bridge (former Neuroscience Room) (I04.30G - LAB)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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