

"Mechanisms accounting for real-time dynamics of lineage determination in early T-cell development"

Abstract: The early stages of T-cell development in the thymus are a highly accessible, tractable system in which the transition from multipotentiality to lineage commitment can be tracked in real time in single cells and dissected by perturbations. Single-cell transcriptome analysis has clarified how transcription factor gene expression changes predict developmental potential changes within individual cells. Driving these changes is a T-cell specification gene regulatory network activated by Notch signaling. However, this network is opposed both by an inertial drag of epigenetic repression and by an actively opposing progenitor-cell gene regulatory network. These are resolved as discussed in the talk.



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