Highlights

- Specific GATA factors trigger an alternate pathway to epithelial-to-mesenchymal transition (EMT) through a downregulation of junctional dE-Cadherin, without a blocking in its transcription, and the direct repression of Crumbs.
- Identification of the Sequoia transcription factor as a repressor of FGF expression allowed us to show that becoming a tip cell does not prevent other cells in the migrating cluster from taking the same position.
- Control of germline torso expression by the BTB/POZ domain protein Pipsqueak.
- DSRF acts as a boosting mechanism to sustain FGF-induced terminal branching in the Drosophila tracheal system.

Posterior midgut primordium of a Drosophila embryo. Cells at the left of the line remain as epithelial cells (static, highly polarized in the apicobasal axis and arranged in palisade). Cells at the right of the line have begun a transition towards mesenchymal cells (with loss of apicobasal polarity, gain of migratory capacity and more rounded morphology).

Detail of the tracheal ganglionic branches of a wildtype and a sequoia mutant Drosophila embryo. In green, the lumen labelled with the 2A12 antibody. In red, the nucleus of the terminal cells visualised by an anti-DSRF antibody. Note that there is only one terminal cell per ganglionic branch in the wildtype while in the sequoia mutant these branches have two terminal cells.
Publications


Research projects


Collaborations

- Specific GATA factors as conserved inducers of an endodermal-EMT, Eduard Batlle, IRB Barcelona (Barcelona, Spain)
- New elements in the Drosophila terminal system, Stephan Luschnig, University of Zurich (Zurich, Switzerland)
- On the origin of insect tracheal systems, Michalis Averof, IMBB (Crete, Greece)