The Wnt/beta-catenin signaling in development and metastasis

Summary

Embryonic development is controlled by a handful of signaling pathways like the Wnt/beta-catenin, the Notch, the Sonic hedgehog the BMP/TGFbeta and Receptor tyrosine kinase pathways. These pathways were identified in the 80 and 90ties by genetic, biochemical and cell biological means. Many scientific disciplines like developmental biology, cancer biology, immunology, and evolution biology contributed to the progress in the field.

I will present recent findings of my laboratory: It will be shown that Wnt/beta-catenin and BMP receptor signalling are essential in the morphogenesis of first and second heart fields. I will also demonstrate that the Wnt/beta-catenin and TGFbeta-pathways are crucial in metastasis formation.