Wnt4 target genes during embryonic kidney development

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The *Xenopus* embryonic kidney became an attractive model system to examine nephron formation and kidney diseases. It has a simple structure and contains one single functional nephron at each body side. Genes necessary for *Xenopus* pronephros development are also required for the development of the more complex mammalian meso- and metanephros. Genetic defects can result in a variety of congenital kidney diseases. The development of renal cysts derived from tubular epithelial cells is the hallmark of nephronophthisis as well as polycystic kidney disease. There is mounting evidence that misregulation of Wnt signaling contributes to the pathogenesis of these diseases. Thus, understanding tubule formation is the basis for a deeper understanding of these clinically relevant diseases. Here we will focus on the identification and characterization of genes regulated by Wnt4 during tubule formation in *Xenopus* and mouse. This project will be performed in cooperation between the Vainio lab in Oulu, Finland, and the Kühl lab in Ulm. For further information about the Institute for Biochemistry and Molecular Biology at Ulm University see: http://www.uni-ulm.de/med/med-biomolbio.html.