

## ***SFB 35 Colloquia in Membrane Transport***

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#### **"Regulation of D-glucose absorption in the kidney and small intestine"**

According to text books luminal D-glucose is reabsorbed by sodium-coupled secondary active transporters (SGLT-family) located in the apical brush border membrane of epithelial cells in the kidney and small intestine. D-glucose is then released into the blood stream by facilitated diffusion via transporters of the GLUT-family located in the basal-lateral pole of the epithelial cell. However, recent results suggest that D-glucose absorption is a much more dynamic process. There is intensive trafficking of the transporters involved between the plasma membrane and intracellular sites. Furthermore, there is short-term redistribution of transporters in epithelial cells in response to a changing nutritional state of the individual. The mechanisms of D-glucose transporter trafficking as well as their potential role as therapeutic targets for the treatment of obesity and type2 diabetes will be discussed in this presentation.