Zoophysiology Seminar at Aarhus University

The surprising cellular whereabouts of the sodium-bicarbonate cotransporter NBCn1

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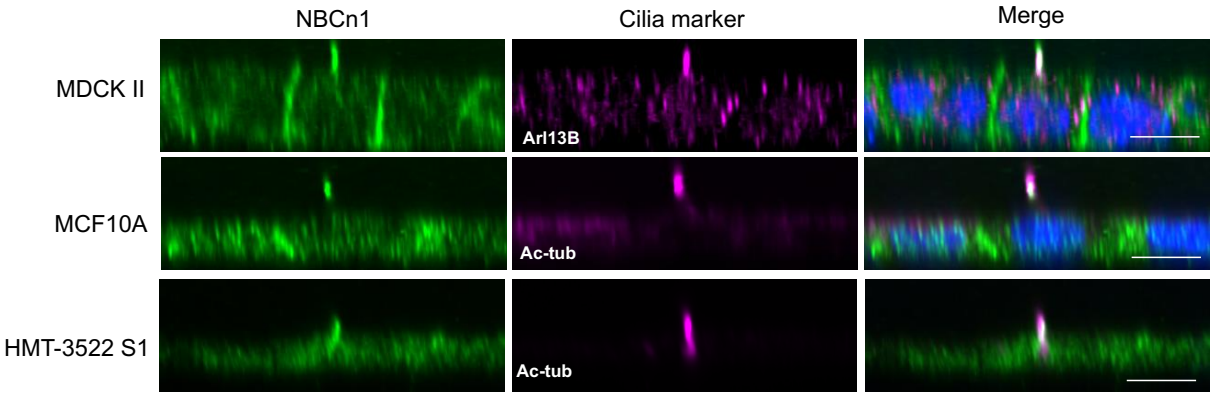
Sodium-bicarbonate co-transporter NBCn1 (SLC4A7) is a key contributor to epithelial pH homeostasis. We have recently investigated the cellular whereabouts of NBCn1. We show, firstly, that a predicted N-terminal β-sheet and short C-terminal α-helical motif are essential for NBCn1 plasma membrane localization in epithelial cells, and that NBCn1 interacts strongly with E-cadherin and DLG1, linking the transporter to adherens junctions and the Scribble complex. NBCn1 also interacted with RhoA and localized to lamellipodia and filopodia in migrating cells. Finally, we demonstrate that NBCn1 additionally localizes to the centrosome and primary cilium in polarized epithelial cells, and to spindle, centrosome and midbodies during mitosis. We propose that NBCn1 traffics between lateral junctions, leading edge, and cell division machinery in Rab11 endosomes, adding new insight to the role of NBCn1 in cell cycle progression.



Tuesday, December 20th at 14.00 in the Zoophysiology Seminar Room (1131-127)