

The role of the Golgi apparatus in cell polarity and migration

Establishment of cell polarity is a highly organized cellular process of relevance for a plethora of developmental and pathological processes. The vast majority of research in this field focuses on processes originating from and regulated by signaling from the plasma membrane. However, mounting evidence suggests that endomembranes and in particular the Golgi apparatus play an important role in cell polarization. It is currently unclear whether the Golgi is just a passive player, or whether it exerts a primary (active) role in cell polarity. In my talk I will present evidence for an active role of the Golgi in the regulation of polarity signaling, directional migration and cell polarization. In addition, I will present results from a screen where we studied how signal transduction regulates the Golgi in cell migration. As cell migration constitutes the basis for metastatic cancer dissemination, our screen likely provides new therapeutic targets for anti-metastatic tumor therapy.