

Polarity of cortex mechanics and fluidity

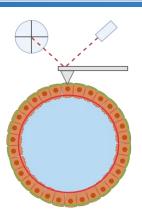
CYTAC

Research question:

Does **mechanical polarity** exist in epithelial cells and if so, how does it arise and depend on functional cell-cell contacts?

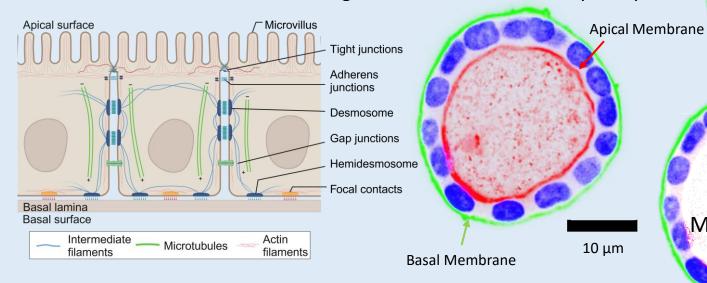
- ➤ Mechanical properties of the basal cortex and whole cysts
- Membrane properties of cysts

Atomic Force Microscopy



Using our model, we can measure the viscoelastic parameter as the pre-tension T_0 , the area expansion modulus K_A and the fluidity β of the basal membrane of single cells in cysts.

Inaccessible Basal Cortex under Investigation Inverted Cell Polarity on Cysts



Magnetic Tissue Manipulation

Micropipette

Aspiration

