**Supplemental Material 1. Computation of intracellular tension from calculated traction stresses**

The intracellular tension is computed from the measured traction stresses by establishing a force balance inside the monolayer and enforcing Saint-Venant’s compatibility of strains. The traction stresses ( and ) are taken as loads acting on the cells, which are modeled as a thin elastic membrane. The resulting governing equations for the intracellular stresses (,, and) are,

Where is the thickness of the monolayer and is the Poisson’s ratio. We defined the intracellular tension as the first invariant of the stress tensor ( +).