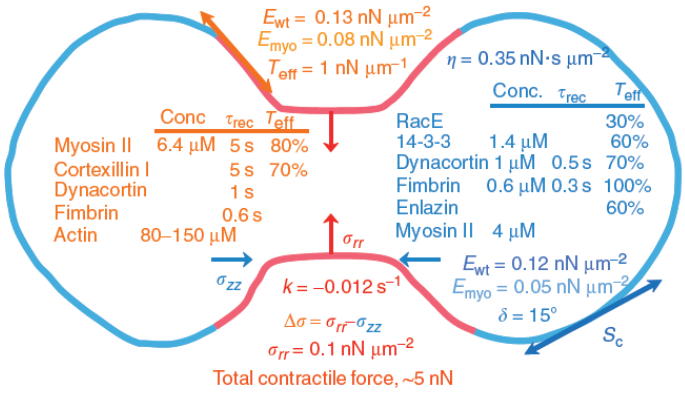

Figure 1 Cytokinesis by the numbers. The schematic presents an analytical framework for cytokinesis contractility and mechanics. The concentration of myosin II and various actin crosslinking proteins, their recovery time (τ_{rec}) from FRAP measurements, the reduction of the effective cortical tension (T_{eff}) of their mutants (based on single gene inhibition or deletion mutants) compared to that of wild type (1 nN µm^{-1}). The spatially resolved (furrow vs. global cortex) elastic moduli (E) for wild-type (E_{wt}) and *myoII* null (E_{myo}) cells are also provided along with the relevant wild-type cytoplasmic viscosity (η) and the cortical mechanical phasing (δ) based on particle tracking rheometry studies. The radial stresses (red vectors; σ_{rr}; with a magnitude of ~0.1 nN µm^{-2}) are antagonized by the compressive stresses (blue vectors; σ_{zz}), leading to a mechanical stress differential ($\Delta\sigma$). The radial stresses give rise to a total force of ~5 nN that drives furrow ingression. The stretch modulus (S_c) also describes the in-plane viscoelasticity of the cortex. Finally, the decay rate (k) for wild-type furrow ingression is also shown. Data summarized here are derived from several sources.[12,18,48,62,71,74,119]

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