Supplementary Material

Focal adhesion kinase stabilizes the cytoskeleton

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Statistical evaluation of diverging effects of the ROCK inhibitor Y27632 on FAKwt vs. FAK-/- cells

We confirmed that the stiffness change in FAK-/- cells after Y27632-treatment was highly correlated (r^2=0.51) with the stiffness before Y27632-treatment (Fig. S1 right). With n=16 independent measurements, this correlation was statistically significant (t-statistics, $p<0.01$). We also confirmed that FAKwt cells tended to soften after ROCK inhibition regardless of baseline stiffness (Fig. S1 left). The correlation between FAKwt cell stiffness before vs. fold-change after ROCK inhibition was not significant (r^2=0.02, $p>0.05$). Note that because of the log-normal distribution of cell stiffness, the data were transformed to logarithmic space prior to performing a correlation analysis.

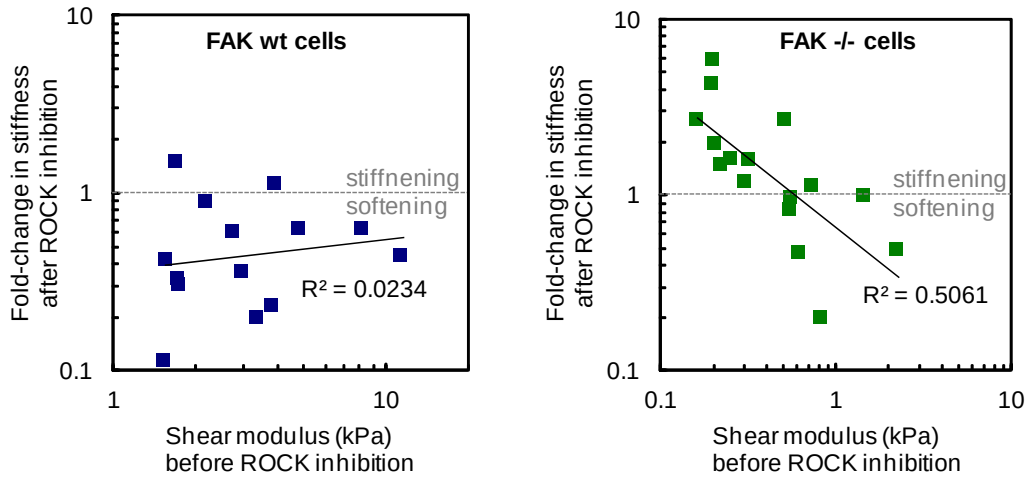

Fig. S1: Fold-change in stiffness following ROCK inhibition with Y27632 (10 µM) vs. cell stiffness before treatment measured with AFM in FAKwt cells (left) and FAK-/- cells (right). A linear correlation analysis after logarithmically transforming the data reveals only in FAK-/- cells a statistically significant ($p<0.01$) relationship between initial cell stiffness and fold-change in stiffness after ROCK inhibition: Soft FAK-/- cells stiffened after treatment with the ROCK-inhibitor Y27632, whereas stiff cells softened. In contrast, FAKwt cells softened after ROCK inhibition regardless of initial stiffness.