

Supplementary information

Video1: Polymerization of actin ($2.4\ \mu\text{M}$) in the presence of filamin ($0.24\ \mu\text{M}$). The square denotes the precise region which is shown in shown in Fig. 1. The time steps between the images increase with time from 2 to 11 minutes. The total width of the image is about $240\ \mu\text{m}$.

Video2: The image sequence corresponding to Fig. 2. The total width of the image is about $450\ \mu\text{m}$.

Video3: Confocal images (z-projection of a $60\ \mu\text{m}$ stack) of an actin network ($2.4\ \mu\text{M}$) bundled by filamin ($0.48\ \mu\text{M}$) before and after local photobleaching. The total width of the image is about $145\ \mu\text{m}$.

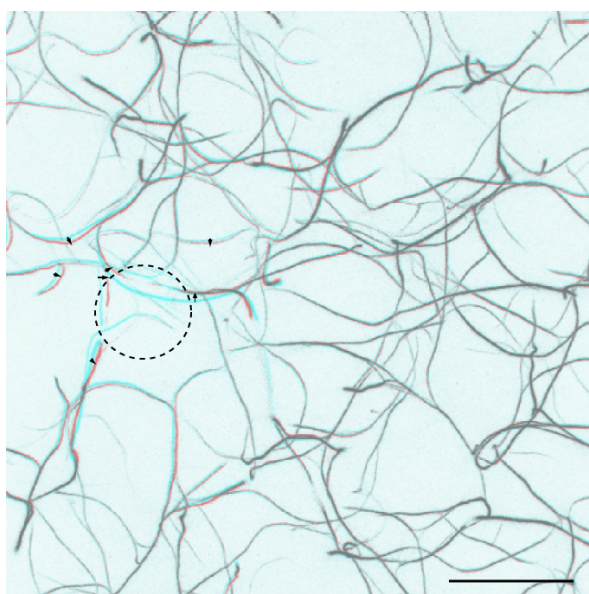


Fig. S1: Overlay of the two confocal images shown in Video3: The actin/filamin network is shown before (blue) and after (red) local destruction of the network by photobleaching. The circle denotes the area of photobleaching. The arrows are intended as guides to the eye denoting the network relaxation. The network relaxes due to internal forces upon locally cutting bundles. Scale bar denotes $30\ \mu\text{m}$.