

SUPPEMENTAL MATERIAL

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Dissecting regional variations in stress fiber mechanics in living cells with laser nanosurgery.
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SUPPLEMENTAL FIGURE LEGENDS

Figure S1. Regional control of stress fibers by ROCK (additional examples). Immunofluorescence imaging of fixed U87MG cels showing F-actin (green, left column), MLC (red, middle column), and regions of colocalization (yellow, right column). Solid bar = 10 μm .

Figure S2. Regional control of stress fibers by MLCK (additional examples). Immunofluorescence imaging of fixed U87 MG showing F-actin (green, left column), MLC (red, middle column), and regions of colocalization (yellow, right column). Solid bar = 10 μm .

Figure S3. Selective photodisruption and viscoelastic recoil of central stress fibers (additional examples). Solid Bar = 10 μm .

Figure S4. Selective photodisruption and viscoelastic recoil of peripheral stress fibers (additional examples). Solid Bar = 10 μm .

Figure S5. Representative images of area changes due to photodisruption of central and peripheral stress fibers (additional examples). Solid Bar = 10 μm .

Figure S6. Plot of Area vs. Time following photodisruption of central and peripheral stress fibers.

SUPPLEMENTAL MOVIE LEGENDS

Movie S1. Loss of central fibers induced by ROCK inhibition. Effect of ROCK inhibition on U87MG glioblastoma cells visualized with real-time fluorescence microscopy acquired at a rate of 0.5 frames/min in the 90 min. after addition of Y27632. Playback rate is 30X the rate of acquisition.

Movie S2. Loss of peripheral fibers induced by MLCK inhibition. Effect of MLCK inhibition on U87MG glioblastoma cells visualized with real time fluorescence microscopy acquired at a rate of 0.5 frames/min in the 90 min. after addition of ML7. Playback rate is 30X the rate of acquisition.

Movie S3. Bleb induced by laser ablation of plasma membrane. Membrane blebbing following disruption of plasma membrane acquired at a rate of 1 frame/s for a total of 1min. following photodsirruption. Playback rate is 30X the rate of acquisition.

Movie S4. Viscoelastic recoil of a severed central fiber. Photodisruption and viscoelastic retraction of an individual central stress fiber acquired at a rate of 1 frame/s for a total of 30 minutes. Playback rate is 30X the rate of acquisition.

Movie S5. Viscoelastic recoil of a severed peripheral fiber. Photodisruption and viscoelastic retraction of an individual peripheral stress fiber acquired at a rate of 1 frame/s for a total of 10 min. Playback rate is 30X the rate of acquisition.

Movie S6. Re-assembly of a severed stress fiber. Re-formation of a peripheral stress fiber at long time scales following photoablation acquired at a rate of 1 frame/s for a total of 30 min. Playback rate is 10X the rate of acquisition.

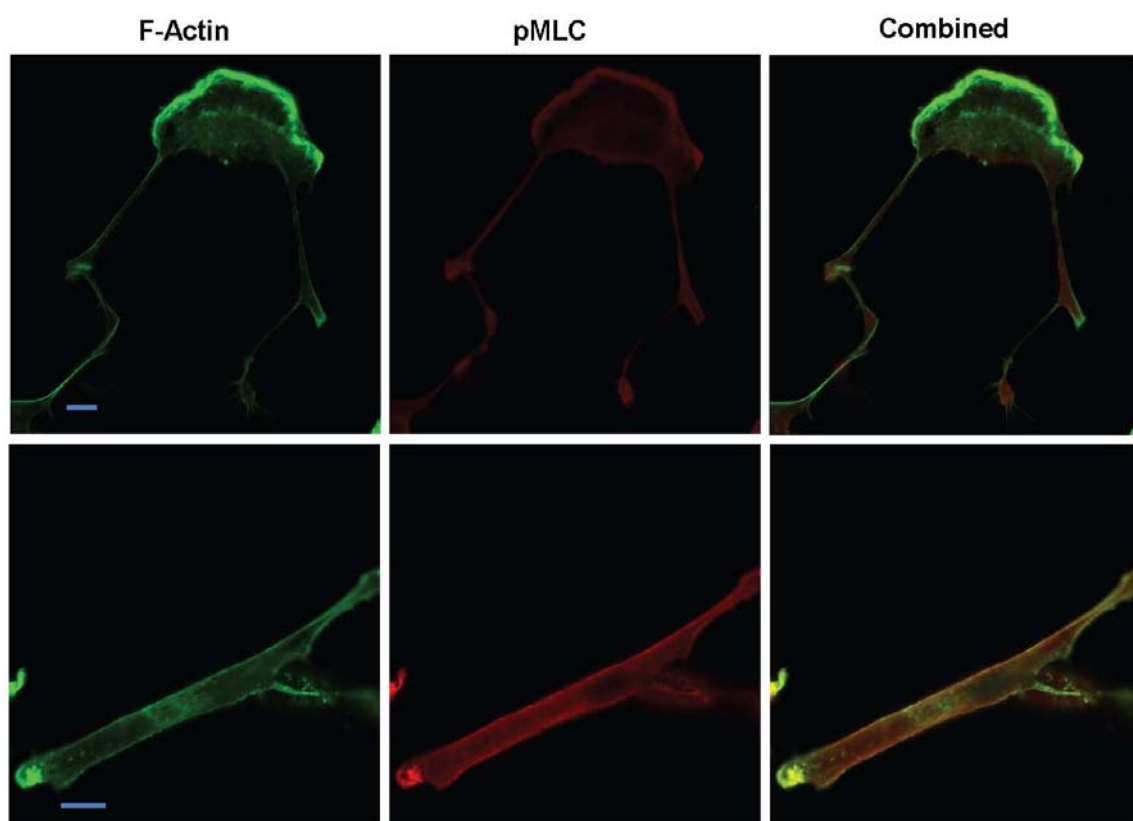


Figure S1

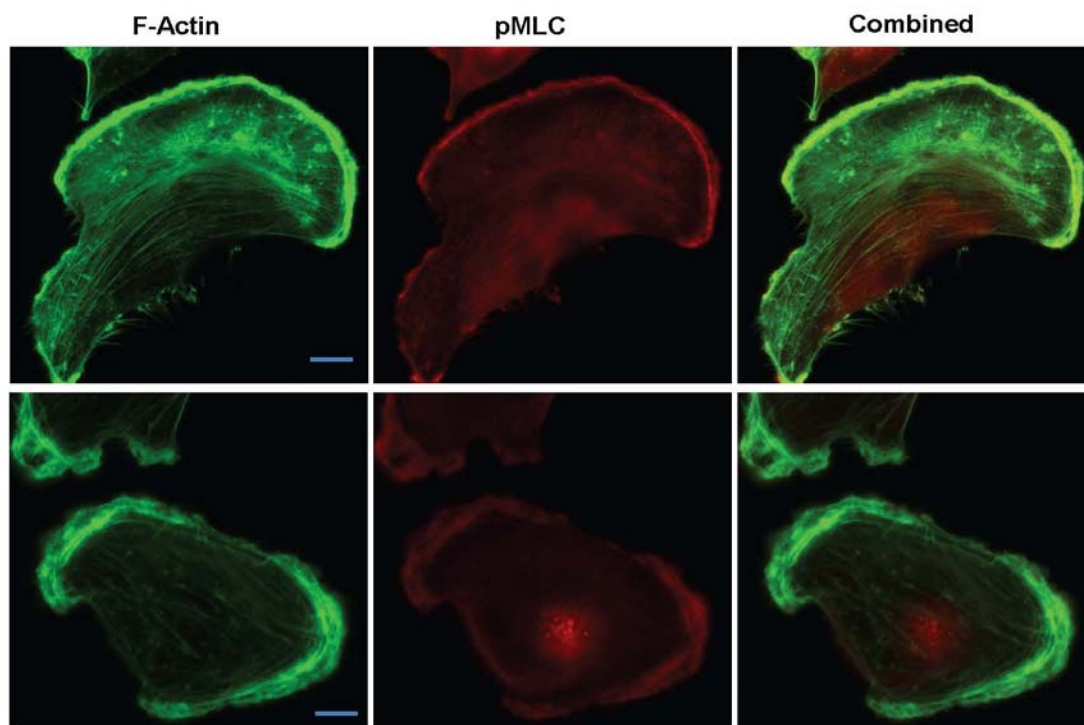


Figure S2

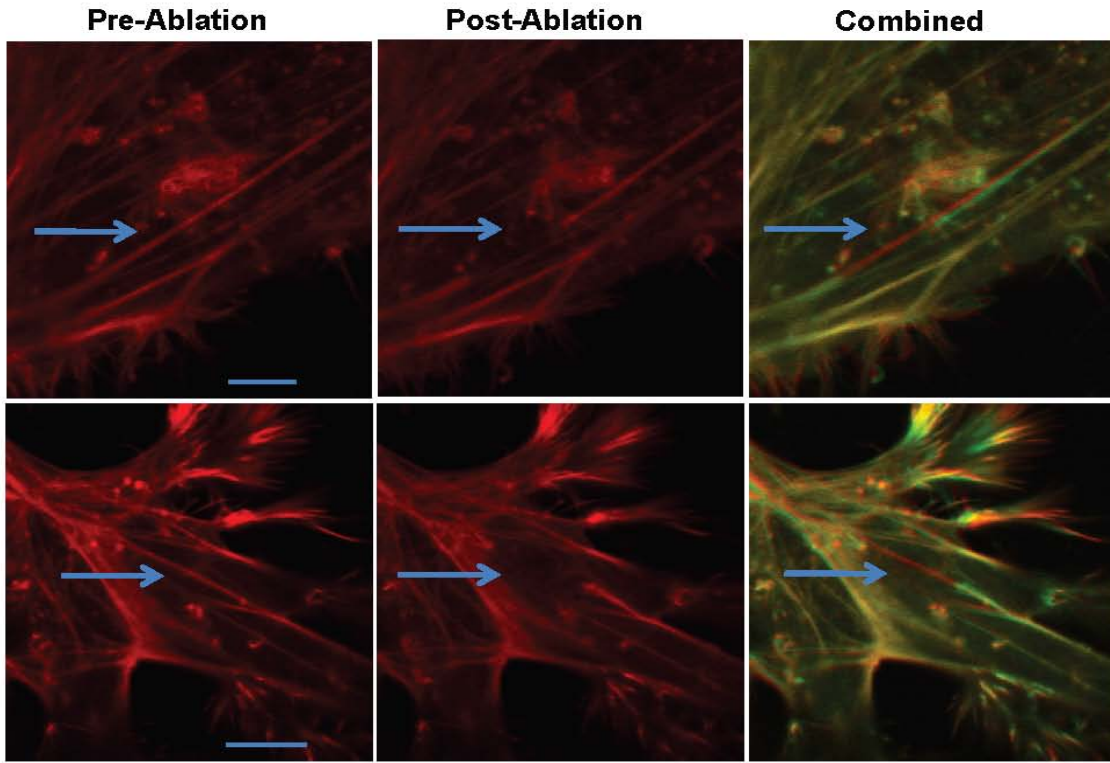


Figure S3

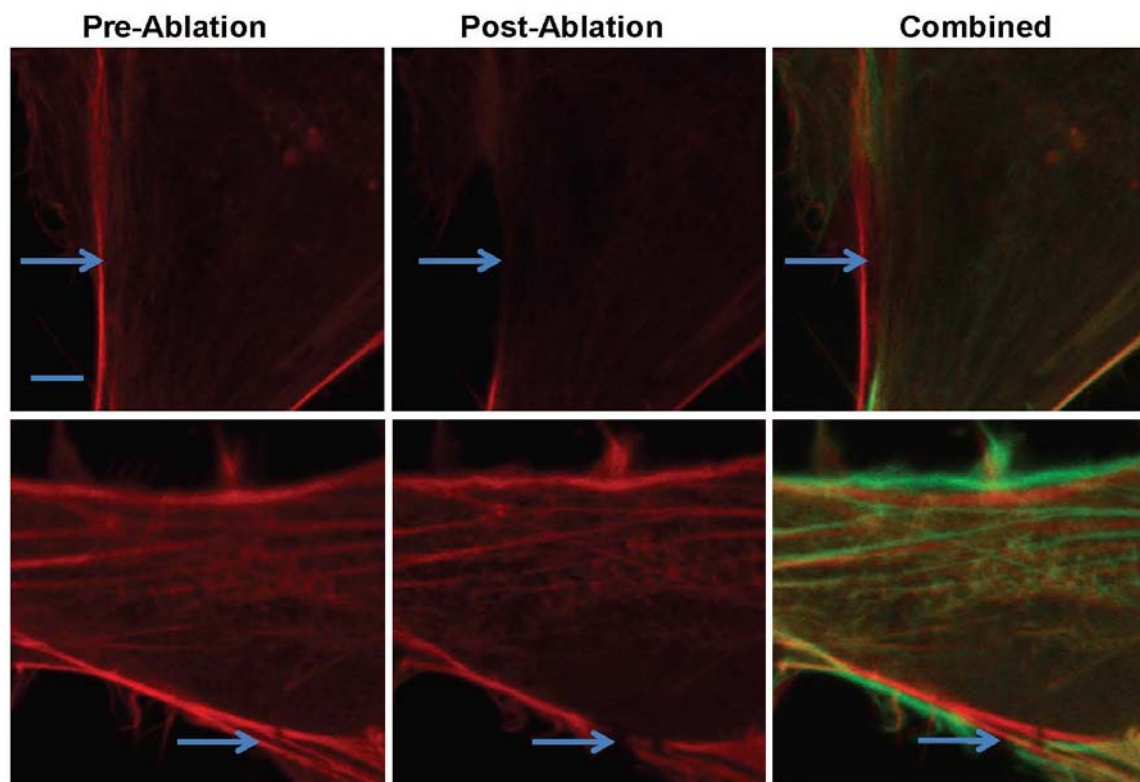


Figure S4

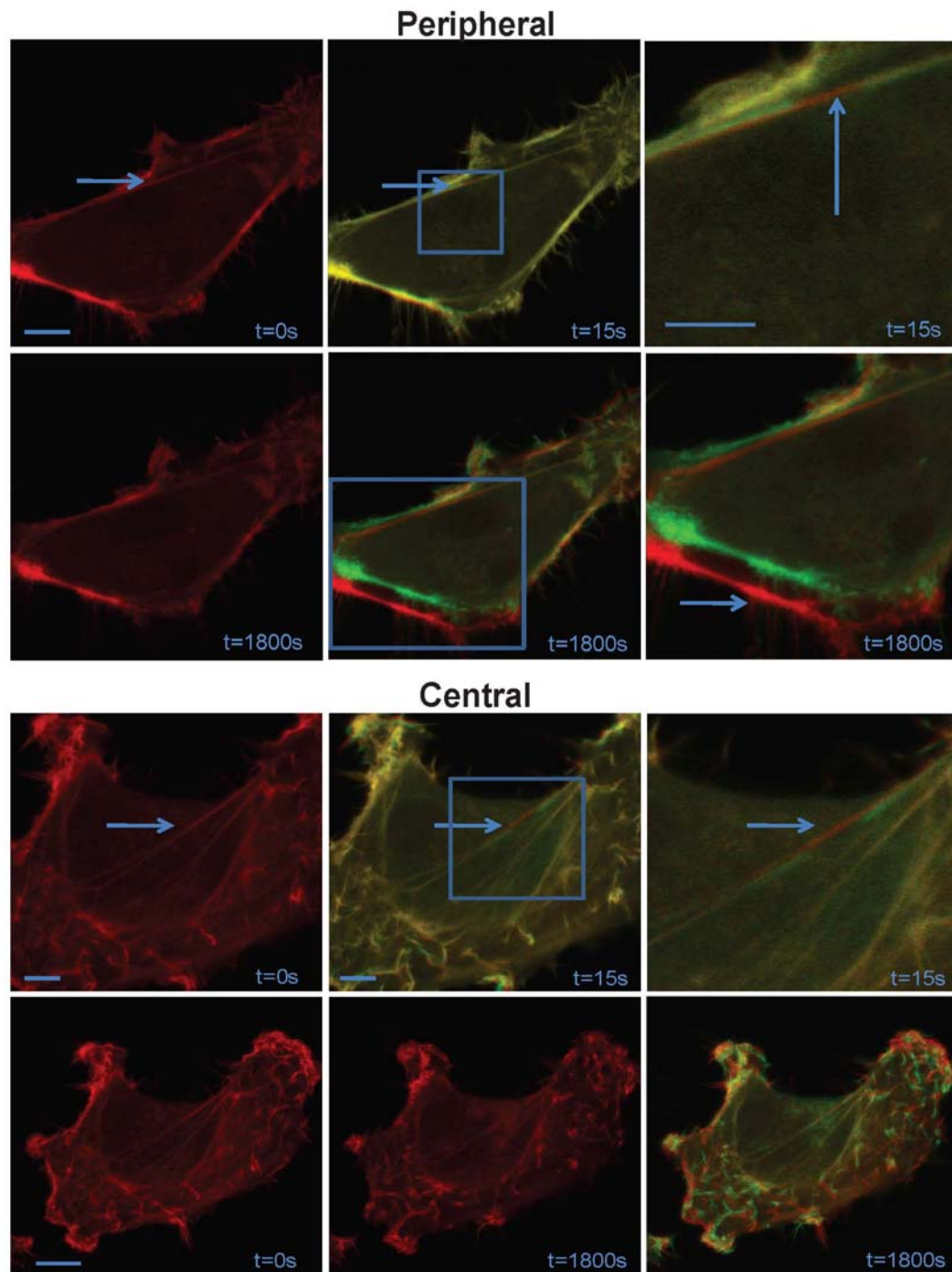


Figure S5

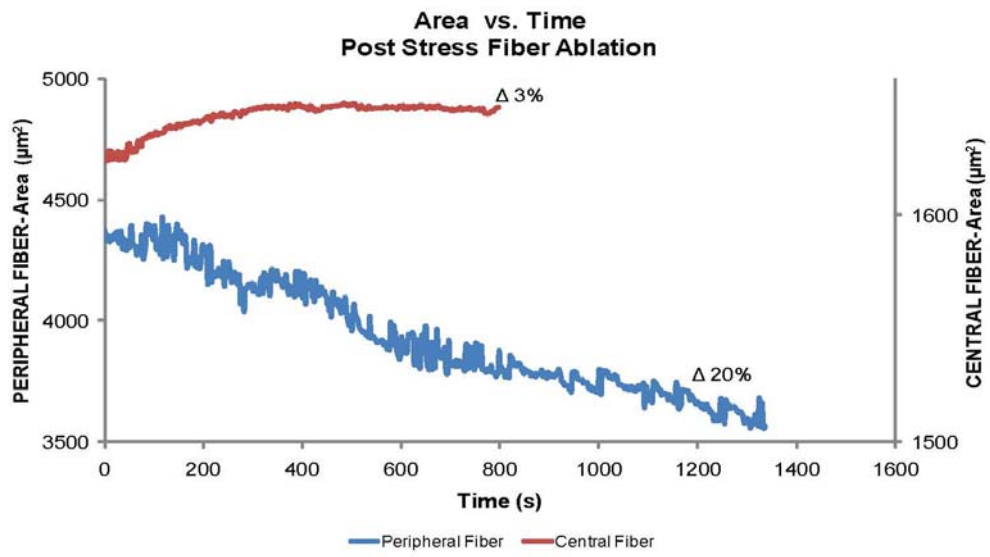


Figure S6