

Supplementary Movie 1

Time-lapse movie of actomyosin contraction and NADH fluorescence with myosin concentration of 12.5 nM, 25 nM, 50 nM, without myosin, and without actin and myosin. Actin concentration is 6 μ M. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 2

Time-lapse movie of actomyosin contraction and NADH fluorescence with myosin concentration of 12.5 nM, 25 nM, 50 nM. Actin concentration is 6 μ M. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 3

Time-lapse movie of actomyosin contraction and NADH fluorescence with 1 mM s-nitro-blebbistatin. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 4

Time-lapse movie of actomyosin contraction and NADH fluorescence with 5 mM ATP, and 1 mM ATP. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 5

Time-lapse movie of actomyosin contraction and NADH fluorescence with 1 μ M fascin, 1 μ M fimbrin, or 0.7 μ M α -actinin. Actin and myosin concentration are 6 μ M and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 6

Time-lapse movie of actomyosin contraction and NADH fluorescence with 1 μ M fascin, 1 μ M fimbrin, or 0.7 μ M α -actinin. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 7

Time-lapse movie of actin and NADH fluorescence with 1 μ M fascin, 1 μ M fimbrin, or 0.7 μ M α -actinin without myosin present. Actin concentration is 6 μ M. Actin (red) and NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 8

Time-lapse movie of actomyosin contraction and NADH fluorescence with 300 nM Arp2/3, 300 nM mDia1, [Arp2/3]:[mDia1]=1:1, and [Arp2/3]:[mDia1]=1:0.1. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Profilin concentration is 3 μ M. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 9

Time-lapse movie of actomyosin contraction and NADH fluorescence with 300 nM Arp2/3, 300 nM mDia1, [Arp2/3]:[mDia1]=1:1, and [Arp2/3]:[mDia1]=1:0.1. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Profilin concentration is 3 μ M. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 10

Time-lapse movie of actomyosin contraction and NADH fluorescence with 60 nM Arp2/3, and 6 nM Arp2/3. Actin and myosin concentrations are 6 μ M and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 11

Time-lapse movie of actin and NADH fluorescence with 300 nM Arp2/3, and 300 nM mDia1 without myosin present. Actin concentration is 6 μ M. Profilin concentration is 3 μ M. Actin (red) and NADH (white) are imaged. Scale bar is 10 μ m.

Supplementary Movie 12

Time-lapse movie of actomyosin contraction and NADH fluorescence with 56 nM gelsolin, 0.4 μ M

cofilin. Actin and myosin concentrations are 6 μM and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μm .

Supplementary Movie 13

Time-lapse movie of actomyosin contraction and NADH fluorescence with 17 μM phalloidin. Actin and myosin concentrations are 6 μM and 50 nM, respectively. Actin (red), myosin (green), NADH (white) are imaged. Scale bar is 10 μm .