

## Description of Additional Supplementary Files

**File Name:** Supplementary Movie 1

**Description:** C1-GFP time-lapse in Square shape cell. Centrin1-GFP live imaging in HeLa cell on a square micropattern. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 25min.

**File Name:** Supplementary Movie 2

**Description:** C1-GFP time-lapse in H shape cell. Centrin1-GFP live imaging in HeLa cell on a H micropattern. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 30min.

**File Name:** Supplementary Movie 3

**Description:** C1-GFP time-lapse in Tripod shape cell. Centrin1-GFP live imaging in HeLa cell on a Tripod micropattern. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 27min.

**File Name:** Supplementary Movie 4

**Description:** C1-GFP time-lapse in T shape cell Description: Centrin1-GFP live imaging in HeLa cell on a T micropattern. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 27min.

**File Name:** Supplementary Movie 5

**Description:** C1-GFP time-lapse in H shape cell upon blebbistatin treatment Description: Centrin1-GFP live imaging in HeLa cell on a H micropattern upon inhibition of acto-myosin contractility via blebbistatin. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 20min.

**File Name:** Supplementary Movie 6

**Description:** C1-GFP time-lapse in T shape cell upon blebbistatin treatment Description: Centrin1-GFP live imaging in HeLa cell on a T micropattern upon inhibition of acto-myosin contractility via blebbistatin. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 29min.

**File Name:** Supplementary Movie 7

**Description:** C1-GFP time-lapse in H shape cell upon ML7 treatment Description: Centrin1-GFP live imaging in HeLa cell on a H micropattern upon inhibition of acto-myosin contractility via ML7. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 30min.

**File Name:** Supplementary Movie 8

**Description:** C1-GFP time-lapse in T shape cell upon ML7 treatment. Centrin1-GFP live imaging in HeLa cell on a T micropattern upon inhibition of acto-myosin contractility via ML7. Time is in hrs:min. Frame rate is 1min. Total acquisition length is 40min.

**File Name:** Supplementary Movie 9

**Description:** C1-GFP time-lapse in H shape cell upon Nocodazole treatment. Centrin1-GFP live imaging in HeLa cell on a H micropattern upon inhibition of Microtubule dynamics via low dose Nocodazole treatment. Time is in hrs:min. Frame rate is 30sec. Total acquisition length is 10min.

**File Name:** Supplementary Movie 10

**Description:** C1-GFP time-lapse in T shape cell upon Nocodazole treatment Description: Centrin1-GFP live imaging in HeLa cell on a T micropattern upon inhibition of acto-myosin contractility via ML7. Time is in hrs:min. Frame rate is 30sec. Total acquisition length is 11min.

**File Name:** Supplementary Movie 11

**Description:** FUCCI HeLa time-lapse in Square shape cell Description: FUCCI HeLa cell live imaging on a Square micropattern. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 20h11min.

**File Name:** Supplementary Movie 12

**Description:** FUCCI HeLa time-lapse in H shape cell. FUCCI HeLa cell live imaging on a H micropattern. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 20h25min.

**File Name:** Supplementary Movie 13

**Description:** FUCCI HeLa time-lapse in Tripod shape cell. FUCCI HeLa cell live imaging on a Tripod micropattern. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 10min. Total acquisition length is 21h30min.

**File Name:** Supplementary Movie 14

**Description:** FUCCI HeLa time-lapse in T shape cell. HeLa cell live imaging on a T micropattern. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 2min. Total acquisition length is 17h38min.

**File Name:** Supplementary Movie 15

**Description:** FUCCI HeLa time-lapse in Square shape cell with 10 $\mu$ m blebbistatin. FUCCI HeLa cell live imaging on a Square micropattern upon 10 $\mu$ m blebbistatin treatment. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 3min. Total acquisition length is 22h9min.

**File Name:** Supplementary Movie 16

**Description:** FUCCI HeLa time-lapse in H shape cell treated with 10 $\mu$ m blebbistatin. FUCCI HeLa cell live imaging on a H micropattern upon 10 $\mu$ m blebbistatin treatment. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 3min. Total acquisition length is 18h.

**File Name:** Supplementary Movie 17

**Description:** FUCCI HeLa time-lapse in Tripod shape cell with 10 $\mu$ m blebbistatin .FUCCI HeLa cell live imaging on a Tripod micropattern upon 10 $\mu$ m blebbistatin treatment. Red signal is hCdt1, a G1-to-S phase reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 3min. Total acquisition length is 18h.

**File Name:** Supplementary Movie 18

**Description:** FUCCI HeLa time-lapse in T shape cell with 10 $\mu$ m blebbistatin. FUCCI HeLa cell live imaging on a T micropattern upon 10 $\mu$ m blebbistatin treatment. Red signal is hCdt1, a G1-to-S phase

reporter and green is Gemin, a S-to-G2 phase marker. Time is in hrs:min. Frame rate is 3min. Total acquisition length is 18h.

**File Name:** Supplementary Movie 19

**Description:** H2B-GFP HeLa time-lapse in Square shape cell. H2B-GFP and Brightfield live imaging of HeLa cells on a Square micropattern. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 6h30min.

**File Name:** Supplementary Movie 20

**Description:** H2B-GFP HeLa time-lapse in H shape cell. H2B-GFP and Brightfield live imaging of HeLa cells on a H micropattern. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 11h50min.

**File Name:** Supplementary Movie 21

**Description:** H2B-GFP HeLa time-lapse in Tripod shape cell. H2B-GFP and Brightfield live imaging of HeLa cells on a Tripod micropattern. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 7h25min.

**File Name:** Supplementary Movie 22

**Description:** H2B-GFP HeLa time-lapse in T shape cell. H2B-GFP and Brightfield live imaging of HeLa cells on a T micropattern. Time is in hrs:min. Frame rate is 5min. Total acquisition length is 11h50min.