

## Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed.** Blue: Cluster I, Light Pink: Cluster II-1, Yellow: Cluster II-2, Green: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . Original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.

File Name: Supplementary Movie 2

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed treated with 50  $\mu\text{M}$  CK689.** Blue: Cluster I, Cyan: Cluster II-1, Yellow: Cluster II-2, Red: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . The original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.

File Name: Supplementary Movie 3

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed treated with 50  $\mu\text{M}$  CK666.** Blue: Cluster I, Cyan: Cluster II-1, Yellow: Cluster II-2, Red: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . The original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.

File Name: Supplementary Movie 4

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed treated with DMSO.** Blue: Cluster I, Cyan: Cluster II-1, Yellow: Cluster II-2, Red: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . The original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.

File Name: Supplementary Movie 5

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed treated with 50 nM Cytochalasin D.** Blue: Cluster I, Cyan: Cluster II-1, Yellow: Cluster II-2, Red: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . The original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.

File Name: Supplementary Movie 6

Description: **Representative cluster-assigned movie of a PtK1 cell stained with CellMask DeepRed treated with 100 nM Cytochalasin D.** Blue: Cluster I, Cyan: Cluster II-1, Yellow: Cluster II-2, Red: Cluster II-3, Magenta: Cluster III. Scale bar: 20  $\mu\text{m}$ . The original movie captured by spinning disc confocal microscopy at a 5s frame interval; replay at 30 frames per second.