

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Bright field imaging of a pair of MDA-MB-231 cells after seeding in a 3D collagen matrix

File Name: Supplementary Movie 2

Description: Reflection imaging of a pair of MDA-MB-231 cells after seeding in a 3D collagen matrix.

File Name: Supplementary Movie 3

Description: Reflection imaging of a microstretcher experiment with dwell time of 10 minutes.

File Name: Supplementary Movie 4

Description: Reflection imaging of a microstretcher experiment with dwell time of 1 hour.