

Supplementary Material

Supplementary Movie 1

Fibroblasts spreading on a micro-patterned substrate with 10 μm center to center non-adhesive gaps.

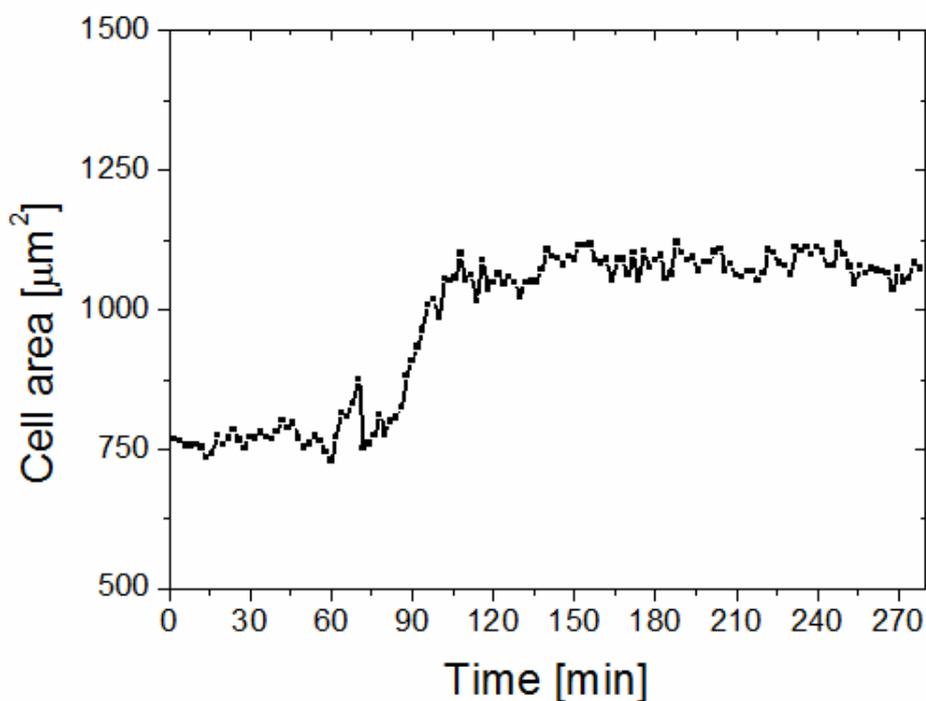
Primary rat subcutaneous fibroblasts were transfected 48 hours prior experiments with LifeAct-EGFP using FugeneHD (Promega). Adhesive patterns made of 4 μm diameter circles covered with human plasma fibronectin (10 $\mu\text{g}/\text{ml}$ - Chemicon) mixed with fibrinogen conjugate Alexa-647 (3 $\mu\text{g}/\text{ml}$ - Invitrogen) were separated by 8 μm non adhesive gaps backfilled with pluronic F127 (BASF). Cells were visualized at 5% CO_2 and at 37°C using a microscope temperature control system (The Cube and The Box, Life Imaging Services), on a widefield Olympus IX81 system using a 60x magnification (oil immersion, N.A=1.4) with an Hamamatsu ORCA ER B7W camera, at 1 frame every 2 minutes.

Supplementary Movie 2

Simulated movie of cell spreading on 12 μm separated adhesive islands.

Adhesive regions are represented in blue, actin bundles in red, adhesion in green (FX are filled dots; empty diamonds are the potential adhesions, which corresponds to lamellipodial extension on non-adhesive regions) and filopodial in yellow. The movie was generated with a frame per minute.

Supplementary Figure 1



Representation of the cell area evolution in function of time measured from Supplementary Movie 1.