

Keratocyte Lamellipodial Protrusion Is Characterized by a Concave Force-Velocity Relation

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Supporting material labels:

Supporting movie 1:

Video of a keratocyte migrating against a glass fibre positioned directly (~20nm) above the surface. A laser beam was coupled into the glass fibre, allowing to observe the deflection of the fibre on a segmented photo detector. Initially the lamellipodium deflects the fibre, followed by the cell body. Finally the cell has passed through the fibre and the fibre jumps back to origin.

Supporting movie 2:

Video of a keratocyte migrating against a glass fibre positioned directly (~20nm) above the surface. Several seconds after initial contact with the lamellipodium, the cell is retracted from the fibre such, that the lamellipodium touches the fibre a second time at the same location. This experiment was performed to test for an adaption of the lamellipodial actin network as a response to the applied force during the initial contact with the fibre.