Electronic Supplementary Information (ESI)

Fig. S1 Polarization of HMT-3522 S1 cells in presence of ECM proteins on filters.

Distribution of apical polarity marker ZO-1 (red) and basal polarity marker α6-integrin (green) in S1 cells cultured on filters in the presence of laminin-111 (133 µg/ml) (A-B), laminin-111 and collagen-IV (133 and 20 µg/ml, respectively) (C), or collagen-IV (20µg/ml) (D). Nuclei were counterstained with DAPI (blue). Shown are serial images from z stacks (A) and orthogonal views (B-D). Size bars, 5µm.

Movie 1. Controlled movements of fluorescent SMPs at a bifurcation of a 50 x 120 µm (height x width) into two 50 x 60 µm channels. Frames were captured at 50 ms intervals and at 20x magnification. Magnetic pull was exerted by moving a magnet above the channels. The walls of the channels have been drawn on the images for clarity.

Movie 2. Controlled movements of fluorescent SMPs within a 50 x 30 µm (height x width) terminal channel. Images were recorded as for Movie 1. At the time the magnet is applied to the channels, the particles move against the left wall of the channel and show directional movement.

Movie 3. Passive movements of fluorescent SMPs at a bifurcation of a 50 x 120 µm (height x width) into two 50 x 60 µm channels. Images were recorded as for Movie 1 except that no magnetic pull was exerted. Imaging was initiated five minutes after injection of SMPs. The slow movements of SMPs reflect the residual flow in the channels.