Supporting Material

The role of stress fibers in the shape determination mechanism of fish keratocytes

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Supporting Figure

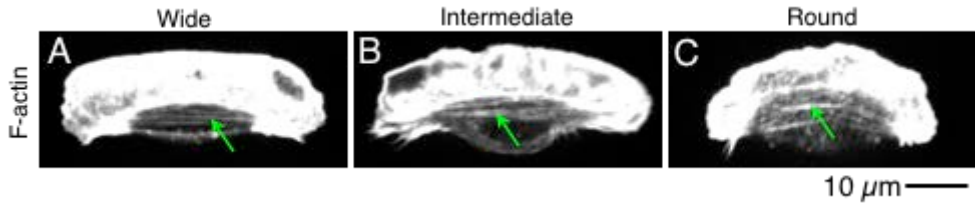

Figure S1. Distribution of stress fibers in keratocytes. (*A*) Wide; (*B*) Intermediate; (C) Round cell. Images *A-C* are same as those in Fig. 3 *G-I*, respectively. To be able to see stress fibers (green arrows), the brightness in the images has been increased. The green arrows in *A-C* are located in the same position of Fig. 3 *G-I*.

Movie Legends

Movie S1. Crawling locomotion of keratocytes from three fish species. Left: Central American cichlid (*Theraps nicaraguense*), middle: goldfish (*Carassius auratus*) and right: black tetra (*Gymnocorymbus ternetzi*). The movie depicts the same cells as that shown in Fig. 1A-C and is shown 75 times faster than real time.

Movie S2. Crawling locomotion of a wide cell loaded with a low level of Alexa phalloidin. Speckle staining of F-actin clearly reveals ARF in the lamellipodium. The movie depicts the same cell as that shown in Fig. 2A and is shown 30 times faster than real time.

Movie S3. Traction forces in locomoting wide, intermediate and round cells. Left: wide, middle: intermediate and right: round cell. The movie depicts the same cells as that shown in Fig. 4A-C and is shown 40 times faster than real time.

Movie S4. Local application of trypsin-EDTA to a locomoting wide cell. Left: DIC image and right: fluorescence image of Fluo-4. The movie depicts the same cell as that shown in Fig. 5A and B. Diffusion of the medium can be observed as fluorescence of Fluo-4 which was added to the application solution. The movie is shown 30 times faster than real time.

Movie S5. Local application of culture medium to a locomoting wide cell. Left: DIC image and right: fluorescence image of Fluo-4. The movie depicts the same cell as that shown in Fig. 5E and F. Diffusion of the medium is observed as fluorescence of Fluo-4 which was added to the culture medium. The movie is shown 30 times faster than real time.

Movie S6. Local application of trypsin-EDTA to a locomoting wide cell loaded with a low level of Alexa phalloidin. Left: DIC image and right: fluorescence image of Alexa phalloidin. Speckle staining of F-actin clearly reveals ARF in the lamellipodium. The movie depicts the same cell as that shown in Fig. 6A and B and is shown 30 times faster than real time.

Movie S7. Laser microablation of stress fibers in a locomoting wide cell loaded with a high level of Alexa phalloidin. The left side of the stress fibers was ablated between the first and the second images. Just after the ablation, the position of the microscope stage was adjusted, because the ablation area was fixed in our microscope. The movie depicts the same cell as that shown in Fig. 7A and is shown 75 times faster than real time.