Biophysical Journal, volume 99

Supporting Material

Title: Statistics of Active Transport in Xenopus Melanophores Cells

Authors: Alexey Snezhko, Kari Barlan, Igor S Aranson, and Vladimir I Gelfand

Statistics of Active Transport in *Xenopus* Melanophores Cells

Supporting Materials:

Xenopus melanophores plated on poly-L-lysine-coated coverslips were treated with 100nM melatonin or 1μM MSH to stimulate aggregation or dispersion of melanosomes, respectively. Cells were serum-starved for 30 minutes prior to addition of hormones. Time-lapse sequences of melanosome motility were taken to acquire 2000 frames at 5 frames per second. Bright-field images of *Xenopus* melanophores were inverted and a bandpass filter was applied to subtract background, level illumination intensity, and filter noise in each frame. Feature identification and tracking was performed using an algorithm developed by John Crocker and David Grier [14], with the sub-pixel resolution; in our case it was about 0.1 μm). In calculations of the space-time correlations and velocity distributions, trajectories with a particle shift less than the particle diameter ($1\mu m$) have been excluded from the analysis.