## **Supplementary Information**:

Supplemental Movie 1. Time lapse imaging of control ADMSC migrating towards breast cancer cells.

**Supplemental Movie 2.** Time lapse imaging of ADMSC with MSV at 1:10 migrating towards breast cancer cells.



**Supplemental Figure 1.** Scanning electron microscopy images of MSV. A) 3.2  $\mu$ m hemispherical particles, B) 3  $\mu$ m discoidal, and C) 1 x 0.2  $\mu$ m. Scale bars = 2  $\mu$ m (A), 1  $\mu$ m (B), 500 nm (C)



**Supplemental Figure 2.** TEM of control ADMSC. TEM images of ADMSC used to compare potential impact on the ultrastructure upon internalization with MSV. Red boxes indicate normal RER and mitochrondria. Scale bar =  $2 \mu m$  (left) and 500 nm (right)

## Supplemental Experimental Section:

*Transmission Electron Microscopy*: After fixation, the samples were washed and treated with 0.1 % Millipore-filtered cacodylate buffered tannic acid, postfixed with 1 % buffered osmium tetroxide for 1 hr, and stained in bloc with 1 % Millipore-filtered uranyl acetate. The samples were dehydrated in increasing concentrations of ethanol, infiltrated, and embedded in Spurr's low viscosity medium. The samples were polymerized in a 70°C oven for 2 days. Ultrathin sections were cut in a Leica Ultracut microtome (Leica, Deerfield, IL) stained with uranyl acetate and lead citrate in a Leica EM stainer and examined in a JEM 1010 transmission electron microscope (JEOL, USA, Inc., Peabody, MA) at an accelerating voltage of 80 kV. Digital images were obtained using the AMT Imaging System (Advanced Microscopy Techniques Corp, Danvers, MA).