

1 **Movie S1. Coordinated motion of GERV with Rab5a+ endosomal vesicles.** A549 cells stably
2 expressing EGFP-Rab5a were exposed to ATTO647N-GERV at an MOI of 30 and imaged at 15
3 Hz and 37°C by spinning-disc confocal microscopy for 60 min. One GERV particle (red) is seen
4 moving with the EGFP-Rab5a+ vesicle (green) approximately 15-20 min post warming.

5 **Movie S2. Coordinated motion of GERV with Rab7a+ endosomal vesicles.** A549 cells stably
6 expressing EGFP-Rab7a were exposed to ATTO647N-GERV at an MOI of 30 and imaged at 15
7 Hz and 37°C by spinning-disc confocal microscopy for 60 min. One GERV particle (red) is seen
8 moving with the EGFP-Rab7a+ vacuole (green) approximately 25-30 min post warming.