## Supplemental movie legends

Movie S1: Dynamics of EGFPtagL proteins in infected cells. Vero/hSLAM cells were infected with IC323-EGFPtagL. Time-lapse imaging analysis was performed from 1 day p.i. A total of 100 still images were taken at 10-min intervals.

**Movie S2: Movement of EGFPtagL proteins along MTs.** Vero/hSLAM cells were infected with IC323-EGFPtagL and transfected with pTagRFP-Tubulin. At 2 days p.i., time-lapse imaging was performed by collecting 150 still images at 1.1-s intervals.

Movie S3: Fast transport of mCherrytagL proteins in infected cells. Vero/hSLAM cells were infected with IC323-mCherrytagL. At 2 days p.i., the cells were treated with DMSO as a vehicle control for the experiment shown in Movie S4 for 15 h, and then 50 still images were taken at 1.1-s intervals.

Movie S4: Nocodazole treatment severely represses the mCherrytagL movement in infected cells. Vero/hSLAM cells were infected with IC323-mCherrytagL. At 2 days p.i., the cells were treated with 5 μM nocodazole for 15 h, and then 50 still images were taken at 1.1-s intervals.

Movie S5: mCherrytagL proteins move along with Rab11-containing

vesicles. Vero/hSLAM cells constitutively expressing EGFP-Rab11 were infected with IC323-mCherrytagL. At 2 days p.i., 180 still images were taken at 1.1-s intervals to analyze the intracellular movements of the Rab11 and L proteins.