Online Supplementary Material and figure legends

**Videomicroscopy.** The cells were plated on 18 mm glass coverslips, placed in a Ludin Chamber (Life Imaging Services). IgG-SRBCs were added and centrifuged at 350 g at 4°C in order to prevent phagocytosis to start and to synchronise the process. The supernatant was replaced by 2 ml of cold phagocytosis medium.

**Sup Movie 1:** phagocytosis was followed under an inverted microscope (Leica DMIRE2) equipped with an oil immersion objective (100x PL APO HCX, 1.4 NA), a temperature control system (Life Imaging Services), a piezo translator for Z-stack acquisition and a CCD camera (Roper Coolsnap HQ). Image acquisition and analysis were performed using Metamorph Software (Universal Imaging). A Z-series of fluorescence images were recorded every 3 s at 0.3 μm increment with a binning of 2x2. Deconvolution was performed by the new 3D deconvolution module from Metamorph, using the fast Iterative Constrained PSF based algorithm (Sibarita et al., 2002). A time stack was built with maximum intensity projections of image stacks.

**Sup Movie 2:** phagocytosis was followed at 37°C under an inverted confocal microscope (Zeiss LSM510 Meta) equipped with an oil immersion objective (63x PL APO DIC, 1.4 NA), and a temperature control system (Life Imaging Services). For time-lapse acquisition, single optical sections were recorded every 3s, simultaneously (multi-track mode) in the two channels (CFP filter: BP 530-600, YFP filter: BP 470-500) with a line average of 8. All images have been filtered by anisotropic wavelet transform and treated with MetaMorph software (update 6.1.5 - Universal Imaging).

**Video 1 legend**
TI-VAMP/Lamp1-positive compartments are recruited early during FcR-mediated phagocytosis in RAW264.7 macrophages.

RAW264.7 transfected to express GFP-TI-VAMP were put into contact with IgG-SRBC and recorded at 37°C using 4D-deconvolution videomicroscopy. Z-series of fluorescence images were recorded every 3 s at 0.3 µm increment. A time-stack was then built with maximum intensity projections of deconvolved image stacks.

**Video 2 legend**

Dynamics of YFP-TI-VAMP/VAMP7 and CFP-cellubrevin/VAMP3 during FcR-mediated phagocytosis in RAW264.7 macrophages.

RAW264.7 transfected to express YFP-TI-VAMP and CFP-VAMP3 were put into contact with IgG-SRBC and recorded at 37°C under a confocal microscope (Zeiss LSM510 Meta). Single optical sections were recorded every 3s in the two channels simultaneously with a line average of 8. Arrowheads point to accumulation of YFP-TI-VAMP and CFP-VAMP3.