Title: Supplementary Movie 1:
Description: 3D reconstruction of DNA localization, related to Fig. 2a.
3D reconstruction of the cell in Fig. 2a showing localization of Cy-5 labelled plasmid DNA (pFL-ssgB; magenta) in an internal vesicle of alpha pIJ82-GFP (cytoplasmic eGFP; green) as generated using the 3D Viewer plugin in Fiji using standard settings (ImageJ).

Title: Supplementary Movie 2:
Description: Uptake of Dextran-Texas Red by L-forms, related to Fig. 2e
Timelapse video of alpha-DivIVA-eGFP (green) incubated with 3 kDa Dextran-Texas Red (D-TR; magenta). Left: Brightfield. Right: Composite of green and magenta channels. Scale bar indicates 1 µm.

Title: Supplementary Movie 3:
Description: 3D Reconstruction of vesicles in L-form cell, related to Fig. 4
3D segmentation volume rendering of vesicles of alpha pIJ82-GFP based on FIB-SEM Z-stack slices corresponding to Fig. 4h and Supplementary Fig. 7a. Colours indicate individual vesicles or vesicle complexes. The cell is depicted in grey in the 3D Volume Rendering.

Title: Supplementary Movie 4:
Description: 3D Reconstruction of vesicles in L-form cell, related to Fig. 4
3D segmentation volume rendering of vesicles of alpha pIJ82-GFP based on FIB-SEM Z-stack slices corresponding to Fig. 4i-q and Supplementary Fig. 7b-d. Colours indicate individual vesicles or vesicle complexes. The cell is depicted in grey in the 3D Volume Rendering.

Title: Supplementary Movie 5:
Description: Timelapse of putative vesicle disruption.
Timelapse of alpha pRed* expressing cytoplasmic mCherry, showing putative vesicle disruption between 01:00 to 01:15 h:min of incubation. The vesicle was present from the start of the incubation. Cells were incubated at 30 °C and imaged overnight using the Lionheart FX automated microscope. Images were taken every 15 min for 20 h. Left: Brightfield. Right: mCherry emission.

Title: Supplementary Movie 6:
Description: Timelapse of putative vesicle disruption.
Timelapse of alpha pRed* expressing cytoplasmic mCherry, showing putative vesicle disruption between 13:30 to 13:45 h:min of incubation. The vesicle was present from the start of the incubation. Cells were incubated at 30 °C and imaged overnight using the Lionheart FX automated microscope. Images were taken every 15 min for 17.5 h. Left: Brightfield. Right: mCherry emission.

Title: Supplementary Movie 7:
Description: Timelapse of putative vesicle disruption.
Timelapse of alpha pRed* expressing cytoplasmic mCherry, showing putative vesicle disruption between 17:15 to 17:30 h:min of incubation, after which the timelapse had ended. Note that the movie shows the incubation from 15 h onwards. The vesicle was present from the start of the incubation. Cells were incubated at 30°C and imaged overnight using the Lionheart FX automated microscope. Images were taken every 15 min for 17.5 h. Left: Brightfield. Right: mCherry emission.

Title: Supplementary Data 1:
Description: Protein sequences used for protein BLAST.
List of protein sequences in FASTA format with accession numbers, used to perform the protein BLAST search against K. viridifaciens DSM40239. Note that the protein sequence of ComP was obtained from literature as stated in the sequence header.