



Supporting Information

for

Brome mosaic virus-like particles as siRNA nanocarriers for biomedical purposes

Alfredo Nuñez-Rivera, Pierrick G. J. Fournier, Danna L. Arellano, Ana G. Rodriguez-Hernandez, Rafael Vazquez-Duhalt and Ruben D. Cadena-Nava

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Internalization of CCMV and BMV in MCF-7 and characterization VLPs (DLS and TEM)

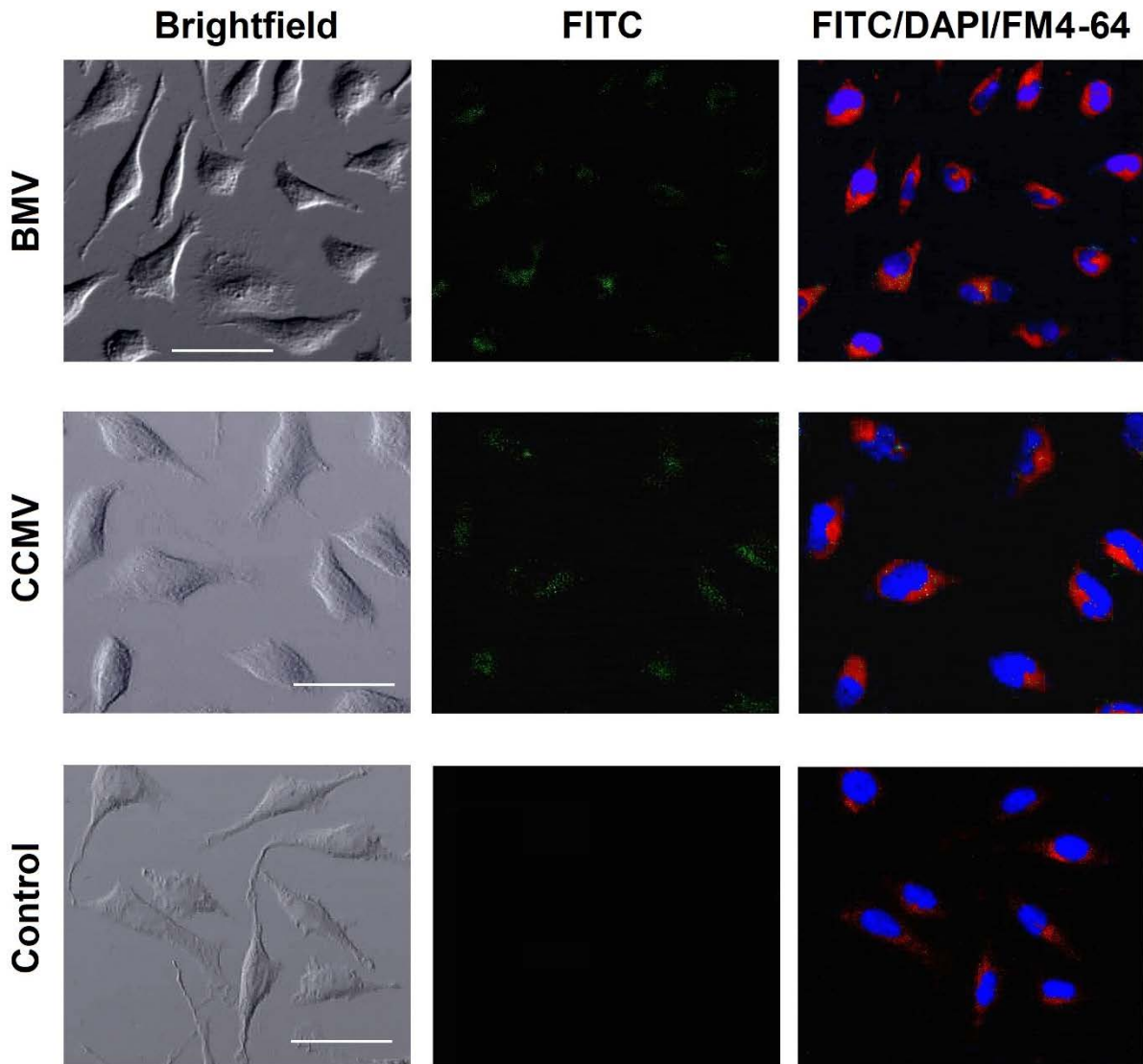


Figure S1: Internalization of CCMV and BMV conjugated with FITC. MCF-7 cells were incubated with BMV-FITC (green channel) and CCMV-FITC (green channel). The cell nucleus was stained with DAPI (blue channel) and FM4-64 for the membrane (red channel). A concentration of 1.3×10^6 virus/cell was used. Both viruses can be efficiently internalized by MCF-7 cells. Scale bar = 50 μ m.

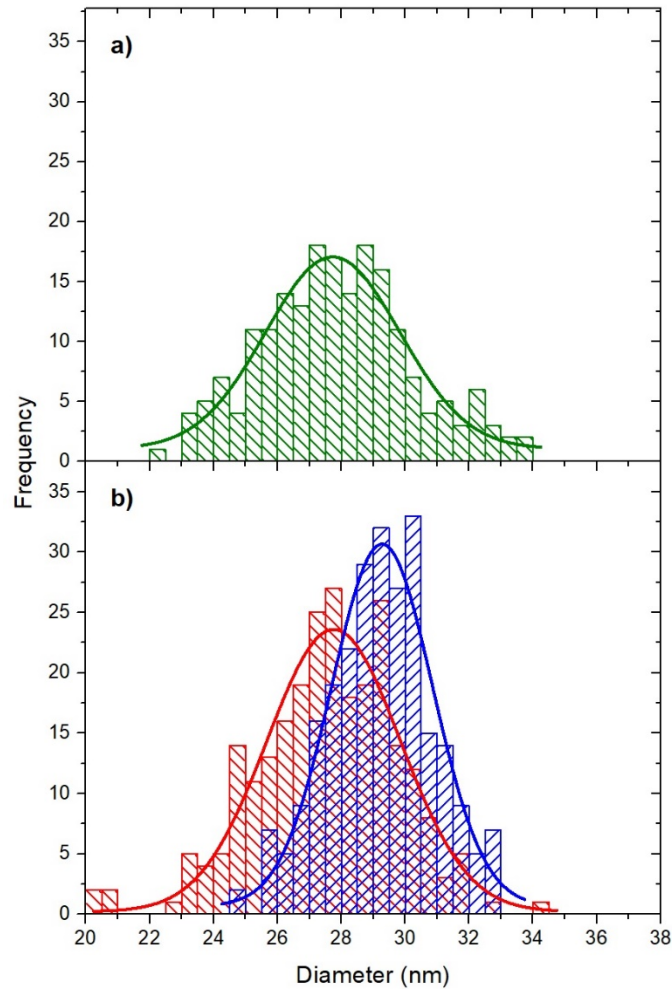


Figure S2: (a) Diameter histogram of BMV VLP-siGFP assembled using a mass ratio 6:1 CP to siGFP. The distribution has been determined from images of 200 capsids. (b) Diameter histogram of BMV VLP-siAkt1 assembled using the same mass ratio (CP to siRNA). The distribution has been determined from images of 250 capsids. Best-fit Gaussian curves, centered at 27.7 (green), 27.8 (red) and 29 nm (blue) for BMV VLP-GFP, VLP-Akt1 and wild-type BMV respectively.

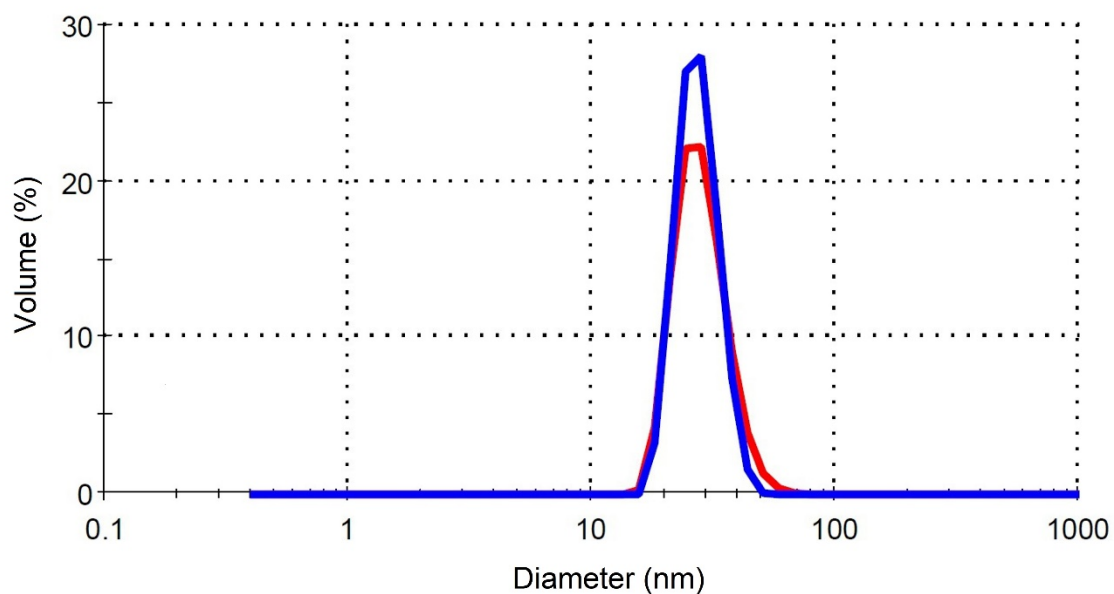


Figure S3: Hydrodynamic diameter distribution of BMV VLP-siAkt1 (red curve) and wild-type BMV (blue curve) by DLS. The size volume distribution histograms for VLP and wild-type BMV shows that the nanoparticles have about the same size.

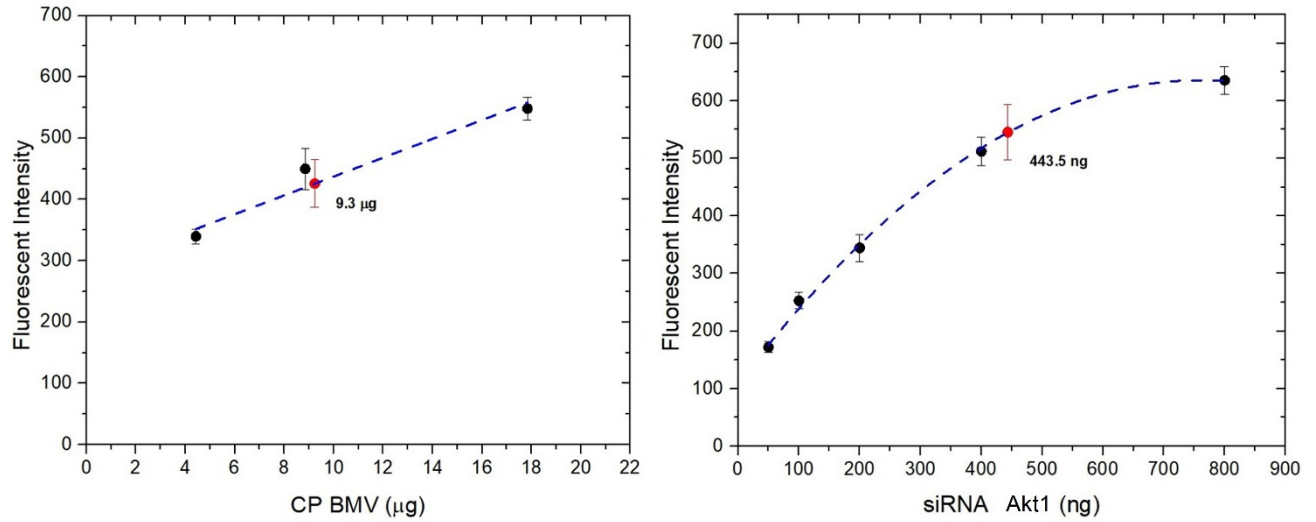


Figure S4: (a) BMV capsid protein fluorescent emission of three solutions of free capsid protein stained with NanoOrange and 1 μL of purified VLPs. (b) siAkt1 fluorescent emission of five solutions of free siRNA stained using Quant-iT RiboGreen RNA Assay Kit, and 5 μL of purified VLPs. According to the calibration curves, the BMV VLP-Akt1 solution has 100 μg of CP for every 23.8 μg of siRNA.