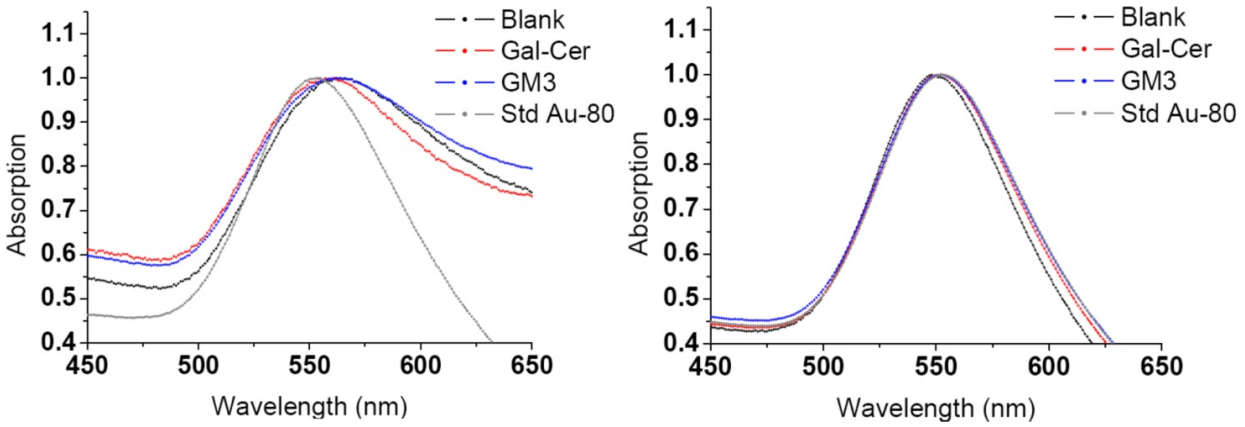
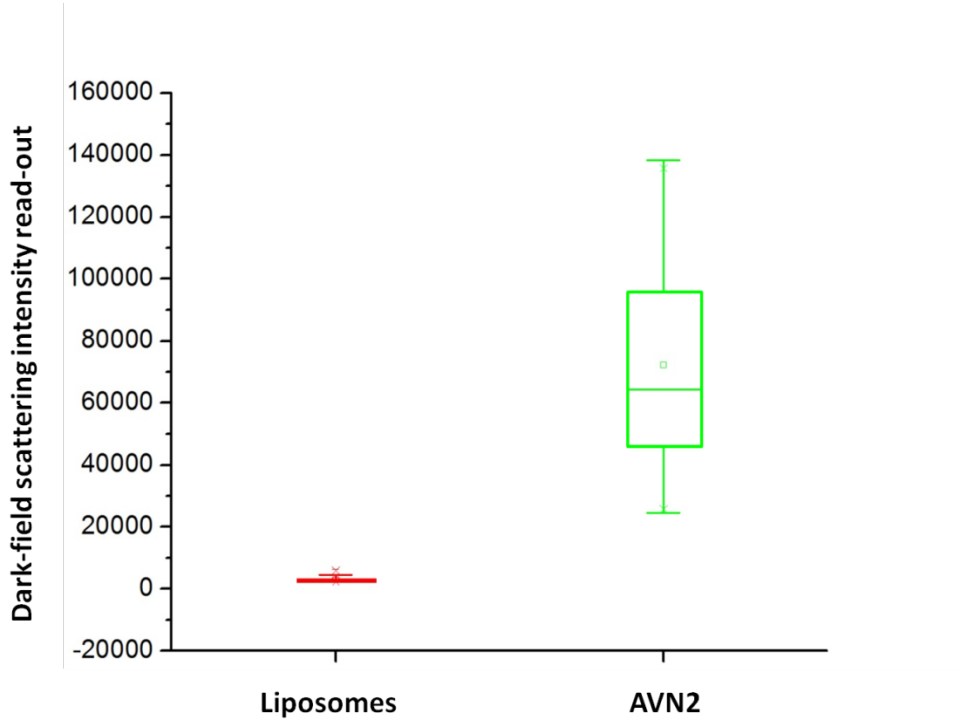
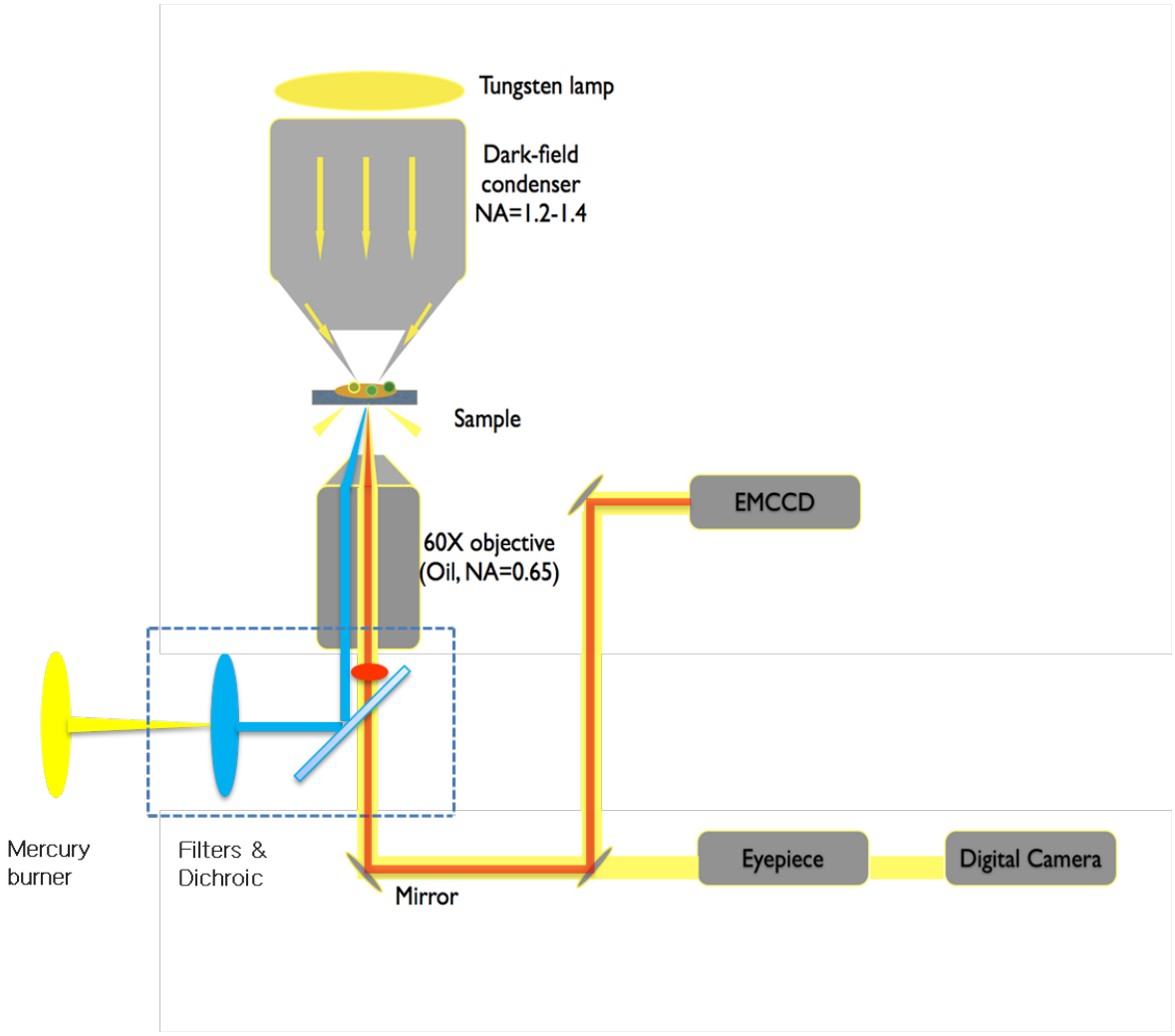


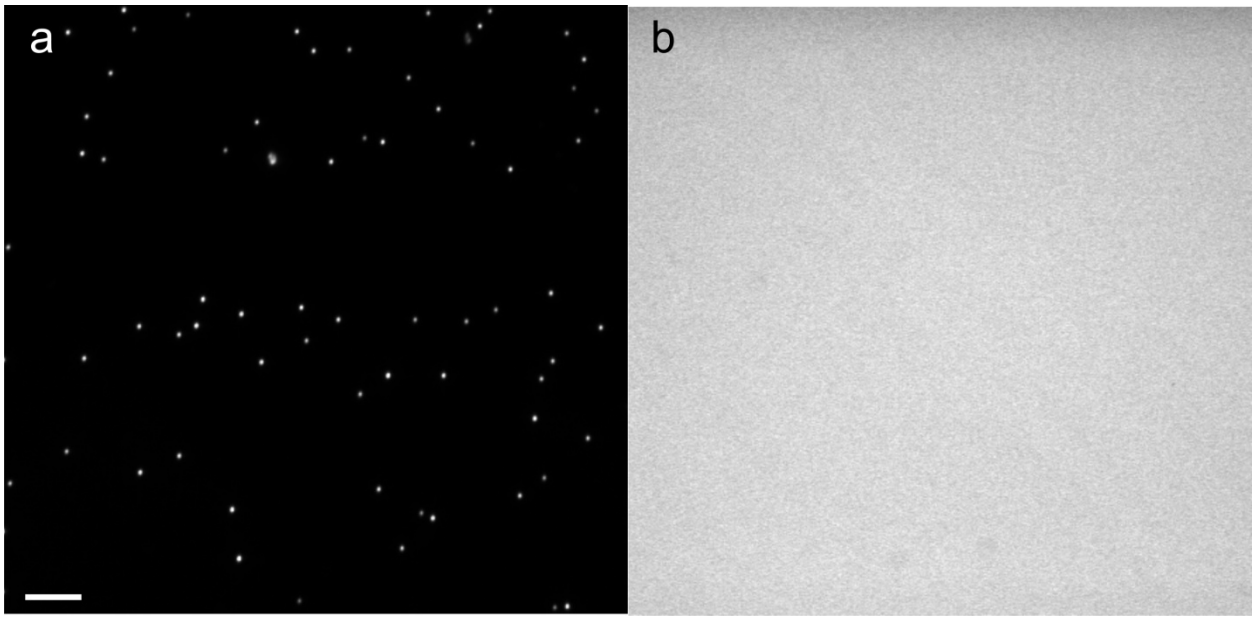
Supplementary Fig. 1. UV-VIS spectra of AVN1 (left) and AVN2 (right). Blank, Gal-Cer, and GM3 particles of type AVN1 have peak resonance wavelengths of 561 nm, which compares with 550 nm for citrate stabilized 80 nm Au NPs. The peak wavelengths for blank, Gal-Cer, and GM3 functionalized particles of type AVN2 are 553nm.



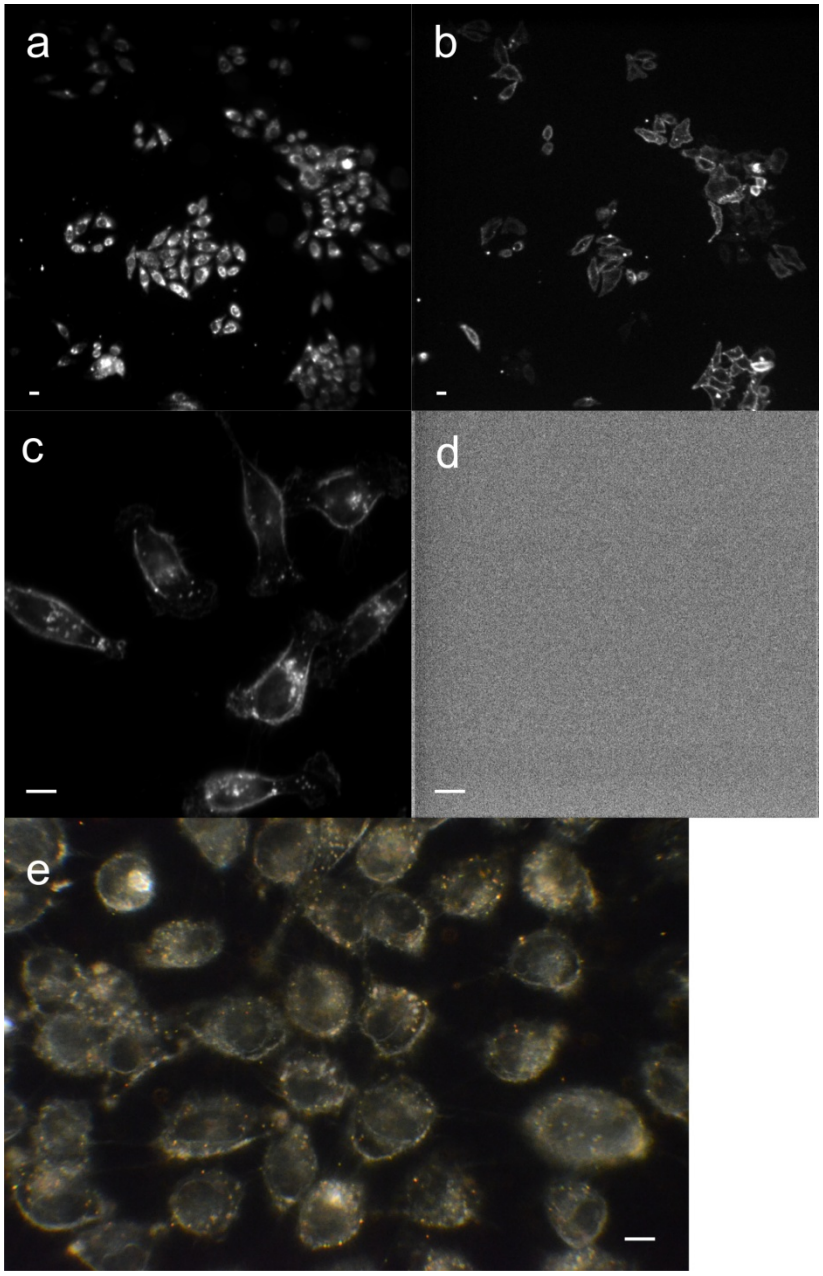
Supplementary Fig. 2. Box plot of the intensity distribution of AVN2 and liposomes with comparable sizes under the same darkfield image setup and recording conditions. AVNs are at least 10 fold brighter than liposomes.



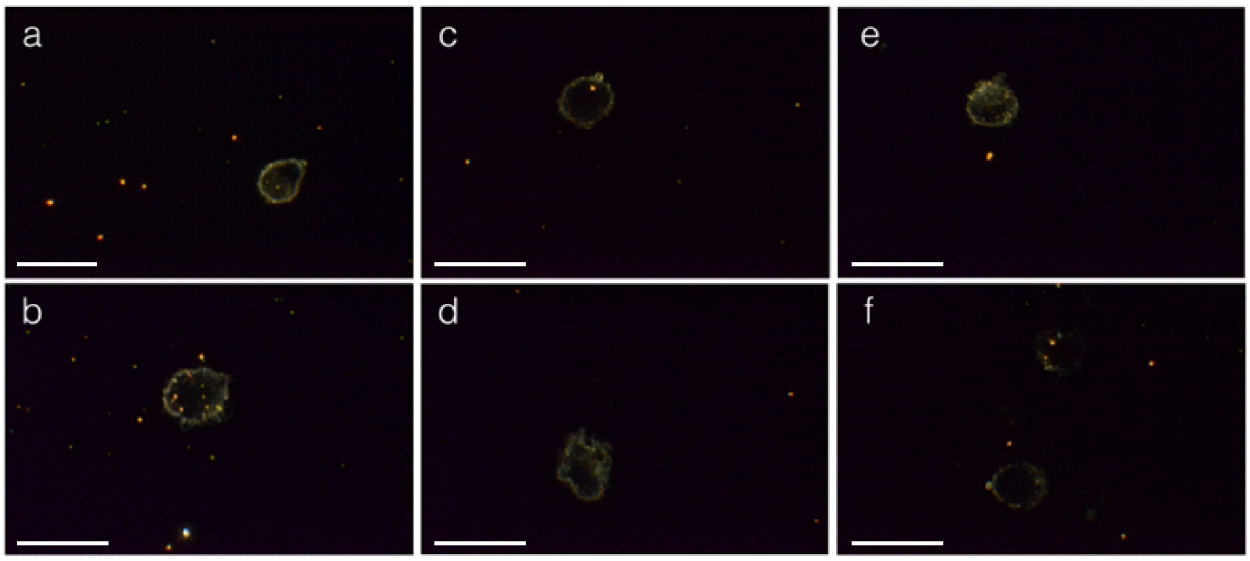
Supplementary Fig. 3. Optical Imaging Set-up. The samples are illuminated by a tungsten light source through a high NA condenser for darkfield imaging, or by a mercury burner with suitable filter/dichroic cubes for fluorescence microscopy. Using a mirror, the light path can be switched between two channels (darkfield or fluorescence). Scattered light or fluorescent signals are collected through a 60X objective (oil, NA=0.65), and recorded by either an EMCCD camera (Andor) or a Nikon D900 SLR digital camera through an eyepiece adapter.



Supplementary Fig. 4. Darkfield image (a) and fluorescence image (b) of 80nm AuNP after overnight incubation with octadecanethiol-ethanol solution together with topfluor-cholesterol dye, but no lipids. After surface immobilization and washing, no signal is observed from the topfluor dye channel. This finding proves that there is no significant non-specific adsorption of the dye molecule to the octadecanethiol coated particle surface in the absence of an intact membrane structure. Scale bar = 10μm.



Supplementary Fig. 5. Darkfield image (a) and fluorescent image (b) of HeLa/CD169 cells after staining with Alexa-647 conjugated CD169 antibody. Approximately 60% of the cells were stained by the antibody, indicative of significant expression of CD169 receptor on the cell surface. In contrast, the darkfield image (c) and fluorescent image (d) of CD169-null HeLa cells shows no detectable expression of CD169 receptors after an identical staining procedure. The darkfield image (e) of GM3 AVN2 treated HeLa cells (following the same protocol as in Fig. 5) shows no binding, which further underlines the need for CD169 expression to achieve GM3 specific binding. Scale bars = 10μm.



Supplementary Fig. 6. Dark-field images of mature DCs incubated with blank AVN2 (a-b) or GalCer (c-f) functionalized AVN2. Incubation time of the DCs with AVNs was 1h. Scale bars are 10μm.