Electronic Supplementary Material (ESI) for Nanoscale.

Cellular Recognition and Macropinocytosis-like Internalization of Nanoparticles Targeted to Integrin alpha2beta1

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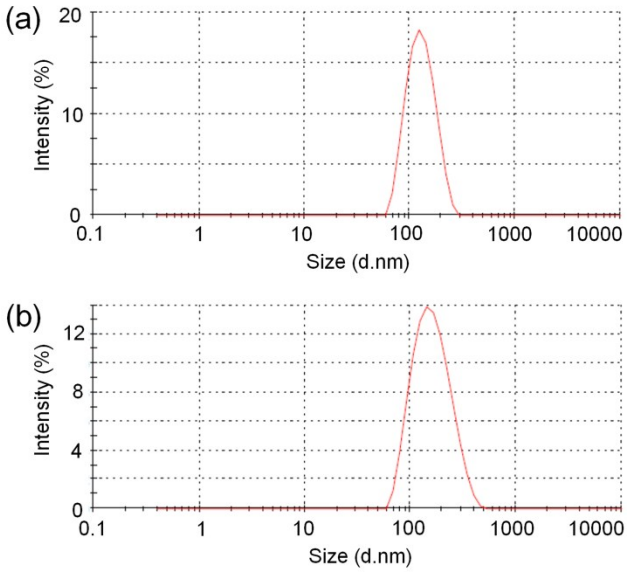

Fig. S1. Characterization of the nanoparticles. a. Dynamic light scattering (DLS) indicates the monodispersivity of the PEG-conjugated particles, b. showing slightly growing hydrodynamic particle size after further surface conjugation with streptavidin . Zeta potential shows successful surface conjugation as plain Stöber particles have a zeta potential of 30 mV and after conjugation steps the measured zeta potential is 42 mV.

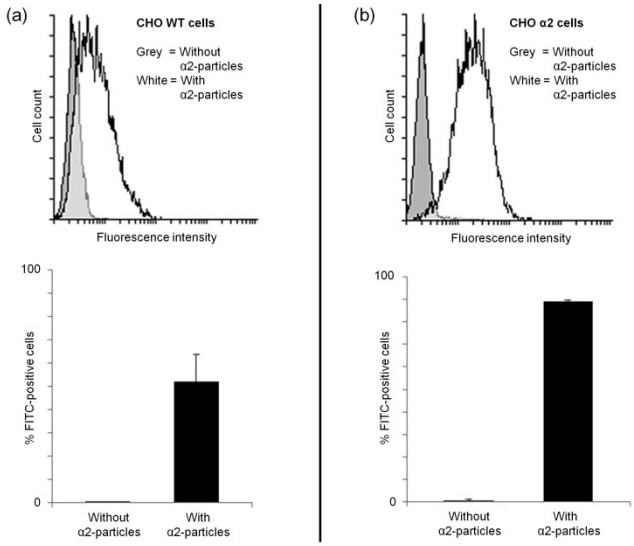

Fig. S2. Attachment of α2 particles to Chinese hamster ovary (CHO) cells **a.** lacking α2 integrin (wild type, WT) and **b.** expressing α2 integrin (CHO α2). The CHO cell line was tested for attachment in addition to the Saos-2 cell line used in the rest of the experiments. Similarly to the results with Saos-2 cells, more α2 particles attached to the CHO α2 cells than to CHO WT cells.

Video S3. (see separate video file). Nanoparticle internalization into a living cell. A 3D surface rendering of the cell membrane (green) is first shown, to illustrate cell shape. The "camera" then goes inside the cell, where a series of images taken with 5 min interval is shown twice, illustrating how nanoparticles (grey) enter into the cell. The video was created with the rendering and animation tools of BioImageXD and assembled with Windows Movie Maker.