Supplimentary Material

of

Study on Orally Delivered Paclitaxel Nanocrystal: Modification, Characterization and its Activity in Gastrointestinal Tract

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Fig. 1.tif

Figure 1 Large- (A) and small- (B) scale SEM image of unmodified PTX NC on Si(100) surface.

Fig. 2.tif

Figure 2 (A) 20 um × 20 um and (B) 4 um × 4 um AFM images of PSS modified PTX NC on mica.

Fig. 3.tif

Figure 3 (A) Chemical structure of the surfactants. (B)Stability of different surfactant modified PTX NC with time. DLS (C) and Zeta-potential (D) of PTX NC modified with different surfacants.

Fig. 4.tif

Figure 4 Particle size dependence of PSS modified PTX NC on pH value and the present enzyme in solution.

Fig. 5.tif

Figure 5 (A) Absorption tendency and (B) Normalized absorption at ~290nm of pepsin/trypsin before and after incubation with PTX NC

Fig 6-2.tif

Figure 6 Toxicity of PTX NC under different concentration and time conditions. \**p<0.05*

Fig. 7.tif

Figure 7 Transmittance of PTX NC over monolayer cell. (A) Bright field microscope, fluorescence microscope and SEM imaging of Caco-2 cell monolayer after cultured for 21 days. The green fluorescence shows the tight junction protein expression. All bars in the picture are 10 μm. (B) Schematic diagram of PTX NC passing through the mimical intestinal epithelial cell. (C) Transmittance of PTX NC over the mimical intestinal epithelial cell at 0 min, 5 min, 10 min, 30 min, 1h, 4h and 6h. The black solid line is a fit to an asymptotic curve (see the text).