Supplemental Information

Supplemental Table 1: Polymer encapsulated docetaxel formulation parameters and hydrodynamic diameters

Sample #	Mass Poly. (mg)	Mass DTX. (mg)	Mass EtOH (mg)	% DTX (m/m)	Vol. final (mL)	[DTX] final (mg/mL)	Day 1 D_H (nm)[a]	Day 7 D_H (nm)[a]	Day 14 D_H (nm)[a]
1	28	1	22	5	0.5	0.5	10	4.9	4.9
2	30	2	24	7	0.5	0.5	6.7	4.3	4.4
	30	3	24	9	0.5	0.5	5	5.6	6.1
3	24	3	19	11	0.5	0.5	4	6.2	6.2

a. As determined by dynamic light scattering

Determination of DTX release kinetics in the presence of human serum albumin. DTX release kinetics were evaluated via dialysis using Float-A-Lyzer G2 (Spectrum Labs) with a molecular cutoff of 3.5-5.0 kDa. Doxetaxel was codissolved with polymer 3 according to the formulation parameters outlined in Table 1. The concentrated docetaxel-ethanol-polymer was then diluted with 150 mM phosphate buffered saline (1x PBS) at pH 7.4 to a final DTX concentration of 5 mg/mL. The DTX-polymer solutions were then added to the Float-A-Lyzer and dialyzed against human serum albumin (50 mg/mL) at 37 ^{o}C over a period of 24 hours. Determination DTX release rates from the polymeric nanoparticles in the presence of human serum albumin was established using reverse-phase high-performance liquid chromatography (RP-HPLC). RP-HPLC was performed using a Finnigan Surveyor LC Pump Plus with UV-Vis Detector and a 250 mm Vydac 218TP C18 5 column (Part 218TP52). Aliquots taken at various times (100 μL) of dialysis were diluted into 900 μL of methanol to extract the protein-bound DTX. The methanolic solutions were then centrifuged to remove the precipitated human serum albumin. A 20 μL aliquot of the methanolic solution was then diluted with 20 μL of hexafuoro-2-propanol and then injected with a 20 μL sample loop. A gradient was set from 5% to 95% acetonitrile over 15 minutes and UV absorbance was measured at 220 nm to observe the DTX.The percent DTX release was measured by integrating of the DTX absorbance signal relative to samples prepared at the maximum possible DTX concentration.