Electronic Supplementary Material (ESI) for Biomaterials Science.

S. No.	Formulation	Average size	Zeta potential (mV)	PDI	Antigen load (µg/mg)	%Entrapment Efficiency
1	PLA MPs	2.84 µm	-20.8	-	-	
2	DQ-OVA MPs	2.60 µm	-25.4	-	9.2	46
3	PLA NPs	264.5 nm	-30.4	0.084	-	
4	DQ-OVA NPs	289.7 nm	-27.0	0.155	9.6	48
5	Vi NPs	278.8 nm	-13.8	0.217	1.3	10.4

Table 1. Particle size (Average diameter), zeta potential, polydispersity index (PDI) of polylactic acid microparticles (PLA MPs) and nanoparticles (PLA NPs) without antigen and with antigen (DQ OVA or Vi capsular polysaccharide); Antigen load and entrapment efficiency of DQ OVA entrapped microparticles (DQ OVA MPs), DQ OVA entrapped nanoparticles (DQ OVA NPs), Vi capsular polysaccharide entrapped nanoparticles (Vi NPs).

		Control	LPS	D MPs	D NPs	DQ OVA MPs	DQ OVA NPs
J 774 A.1	TNF-α	94.37 ± 14.12	3367.22 ± 104.70	116.62±18.82	142±22.25	249.47 ± 29.13	2118.62 ± 416.70
	IL-6	6.13 ± 1.01	189.08 ± 6.71	10.56±0.82	11.24±1.13	36.48 ± 3.68	125.69 ± 5.77
DC 2.4	TNF-α	93.36 ± 9.00	2157.23 ± 50.89	114.48±12.60	138.52±16.28	539.79 ± 38.56	1416.80 ± 72.55
	IL-6	35.38 ± 12.88	1459.42 ± 200.10	46.35±9.61	50.72±15.94	253.35 ± 39.59	910.27 ± 30.36
Splenocytes	TNF-α	6.88 ± 0.51	456.79 ± 21.53	5.72±0.81	7.41±0.66	78.17 ± 4.89	367.14 ± 79.36
	IL-6	1.24 ± 0.88	75.80 ± 0.45	1.55±0.96	2.16±0.65	3.07 ± 1.40	25.85 ± 4.45
BMDCs	TNF-α	20.73 ± 11.36	577.22 ± 3.45	18.74±12.40	26.28±9.61	299.70 ± 23.64	552.35 ± 11.75
	IL-6	32.06 ± 2.84	639.31 ± 1.70	35.85±4.57	40.61±7.53	382.24 ± 94.82	625.03 ± 10.03

Table 2. Cytokine release profile of culture supernatants of various APCs 24 h post-incubation with different sized PLA particles. Culture supernatants were analyzed for presence of mouse TNF-α and IL-6 using e-Biosciences ELISA kits. Particle concentration of 0.5 mg/mL was used. LPS (10 ng/mL) was used as positive control. Values represent average cytokine concentration in pg/mL ± standard error of mean. LPS, Lipopolysaccharide; D MPs, Dummy PLA microparticles; D NPs, Dummy PLA nanoparticles; DQ OVA MPs, DQ OVA PLA microparticles; DQ OVA NPs, DQ OVA PLA nanoparticles

Figure legends supportive information

Figure S1. Pro-inflammatory cytokine analyses upon interaction of particles (I) and (II) represent TNF-α and IL-6 production in splenocytes, (III) and (IV) represent TNF-α and IL-6 production in BMDCs after 24h incubation with 0.5 mg/ml PLA nanoparticles. (V) and (VI) represent TNF-α and IL-6 production in BMDCs after 24h with 0.1 mg/ml PLA nanoparticles. PM= PLA microparticles, PN= PLA nanoparticles, LPS=Lipopolysaccharide.

Figure S2. Flow cytometry analyses of PLA nanoparticles uptake by J774A.1 murine macrophages cells. 6-coumarin labelled nanoparticles were incubated with cells for 4h and particle associated fluorescence was evaluated by flow cytometry with or without dynasore. Fluorescent cells were counted and represented as percentage of cells that phagocytosed the PLA nanoparticles (NPs)