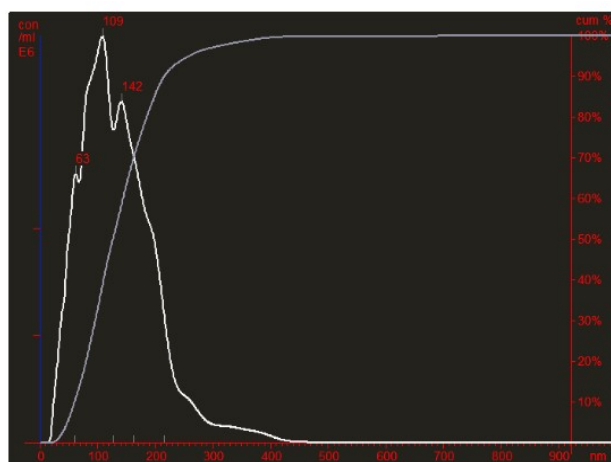


Effects of nanoceria on human platelet functions and blood coagulation

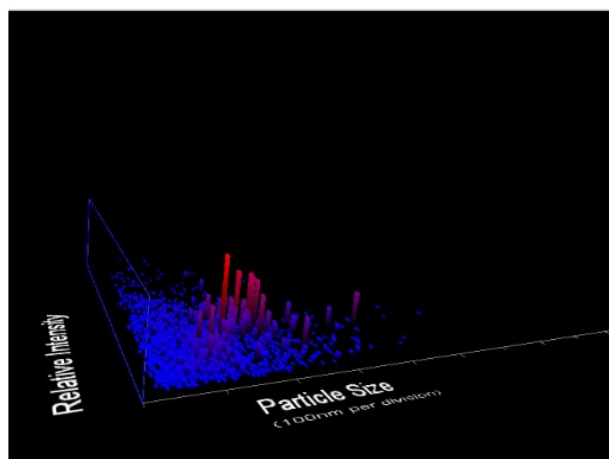
(Supplementary data)

Supplementary Table 1: Nanoceria dose and counts used in experiments.

Code	Number of nanoceria particles per platelet (in washed platelets and PRP samples)	Nanoceria particle count per ml of sample (washed platelets, PRP, whole blood and fibrinogen samples)	Approximate weight/volume of nanoceria in samples
NC0	00	00	00
NC50	50	100×10^8	~ 27 $\mu\text{g/ml}$
NC300	300	600×10^8	~ 162 $\mu\text{g/ml}$
NC600	600	1200×10^8	~ 324 $\mu\text{g/ml}$



Particle Size / Concentration



Particle Size / Relative Intensity 3D plot

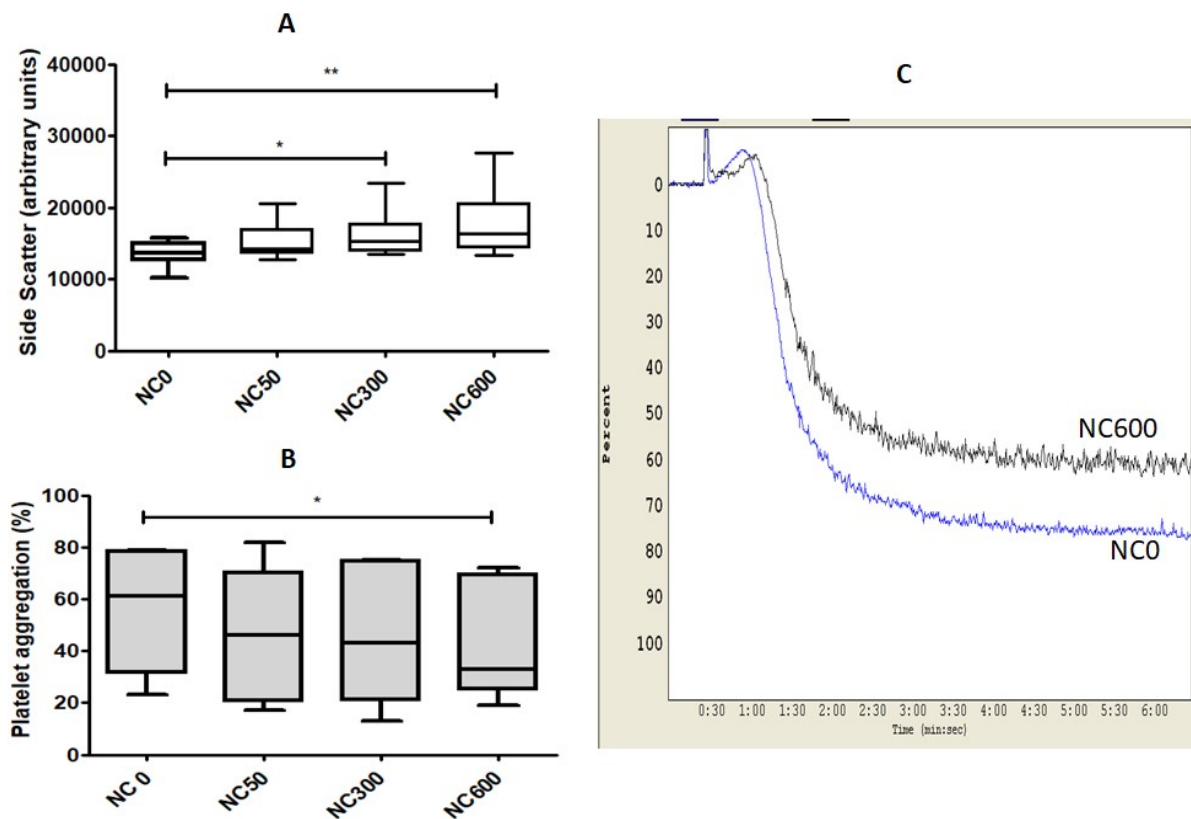
Bin Centre (nm)	Concentration (E6 particles/ml)	Percentile Undersize (%)
10	0.092	0.017
30	13.580	2.542
50	36.822	9.387
70	52.696	19.183
90	68.405	31.899
110	73.464	45.555
130	60.948	56.885
150	60.469	68.126
170	50.293	77.475
190	41.275	85.148

Bin Centre (nm)	Concentration (E6 particles/ml)	Percentile Undersize (%)
690	0.000	100.000
710	0.000	100.000
730	0.000	100.000
750	0.000	100.000
770	0.000	100.000
790	0.000	100.000
810	0.000	100.000
830	0.000	100.000
850	0.000	100.000
870	0.000	100.000

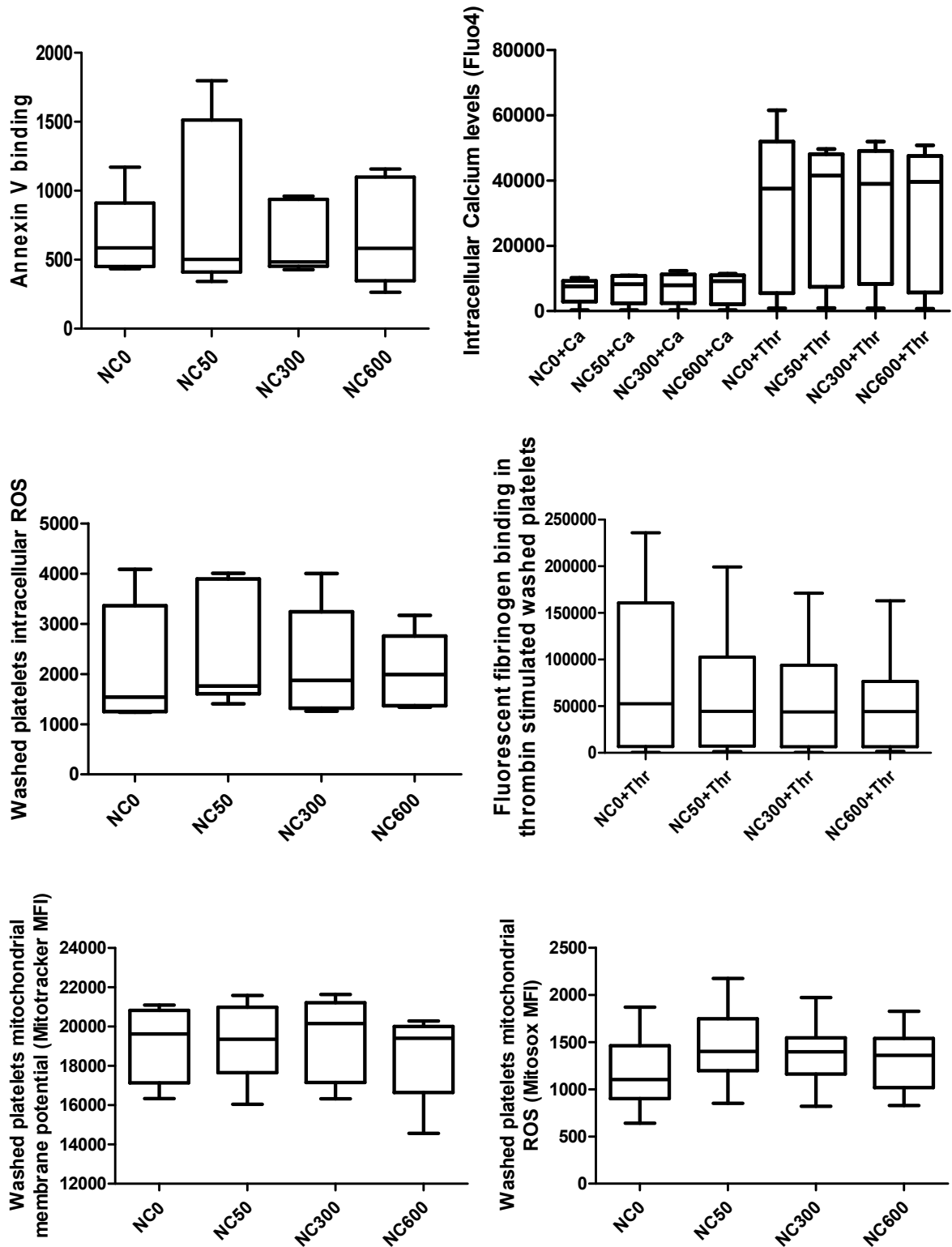
Results

Mean: 138 nm
Mode: 109 nm
SD: 67 nm
D10: 61 nm
D50: 127 nm
D90: 216 nm
User Lines: 0 nm, 0 nm
Concentration: 5.38 E8 particles/ml
Completed Tracks: 1933

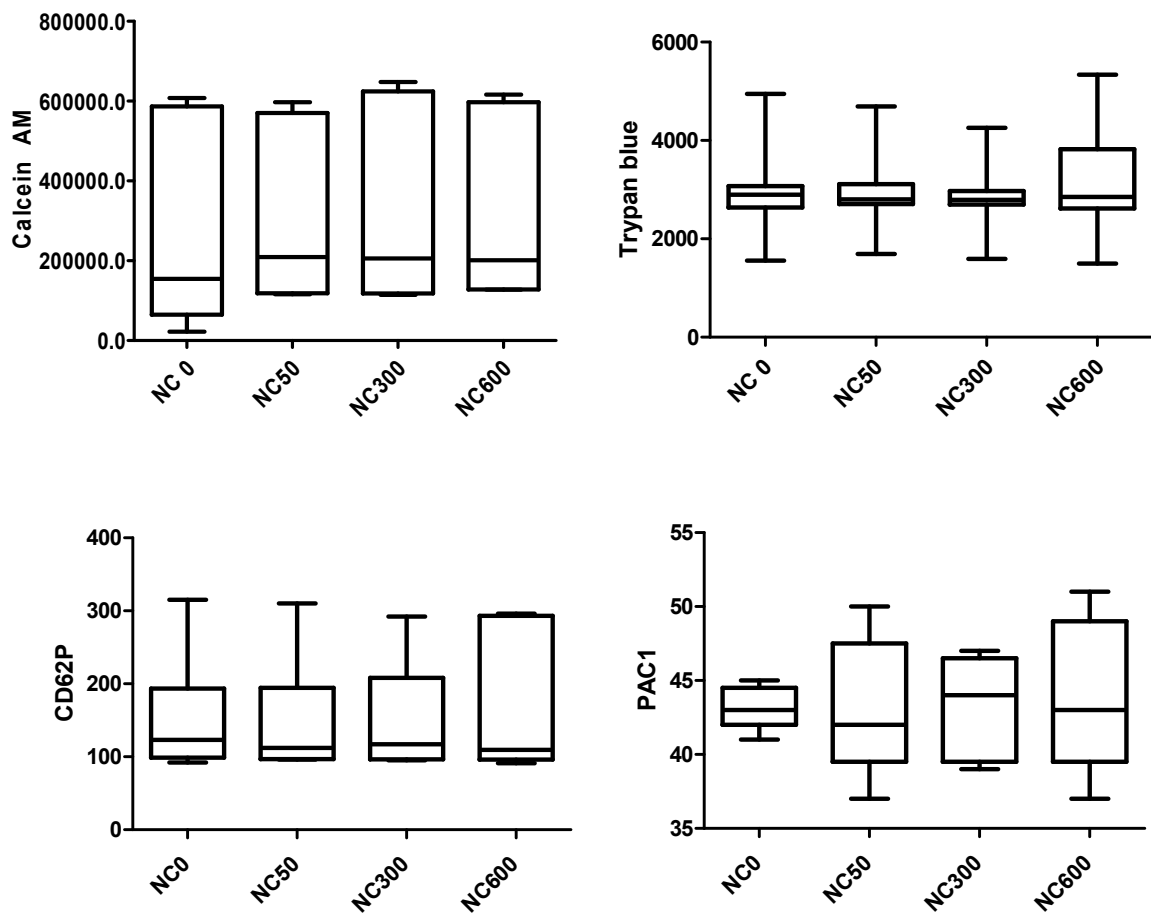
Supplementary figure 1: Exported data of nanoceria suspension analyzed by nanoparticle tracking analysis. Figure is representative of 4 experiments.



Supplementary figure 2: A, flow cytometry of platelets (in PRP) after incubation with increasing concentrations of nanoceria showing dose-dependent rise in side scatter (SSC). (n=6, repeated measure ANOVA). B, nanoceria-mediated inhibition of collagen-induced platelet aggregation in PRP (n=5, repeated measure ANOVA). C, Collagen induced platelet aggregation in PRP, in presence or absence of nanoceria.



Supplementary figure 3: Intracellular calcium level, Annexin V binding and fibrinogen binding capacity of washed platelets (with and without nanoceria) after stimulation with 0.5 U thrombin (n=5, repeated measure ANOVA).



Supplementary figure 4: Nanoceria treatment in PRP did not affect cell viability (Calcein-AM staining, n=5), membrane integrity (Trypan blue staining, n=7), PAC1 binding (n=5) and P-selectin expression (n=5) in platelets.