Supplementary Figures

Supplementary Figure S1. IVIS analysis of organ biodistribution of liposomes and leukosomes at 1 (A) and 6 h (B) after nanovesicles injection in LPS-induced septic mice.

Supplementary Figure S2. Flow cytometry analysis reveals the interaction between F4/80 positive cells (macrophage population) and leukosomes *ex vivo*. Blood from LPS-septic mice was collected at 1 hours after FITC-labeled leukosomes injection. After red blood cell lysis, the F4/80+ macrophage population was gated to evaluate leukosome enrichment. Over the 9% of the macrophage population showed enrichment with leukosomes.

Supplementary Figure S3. qRT-PCR analysis of gene expression of non-activated (healthy) endothelial cells co-cultured with LPS-inflamed macrophages (M^{Φ}) for 24h in the presence or absence of liposomes and leukosomes (Lipo and Leuko, respectively). Relative expression was calculated compared to not inflamed endothelial cells co-cultured with inflamed macrophages. Data are expressed as mean ± s.d. of six different biological replicates. (*P< 0.05).

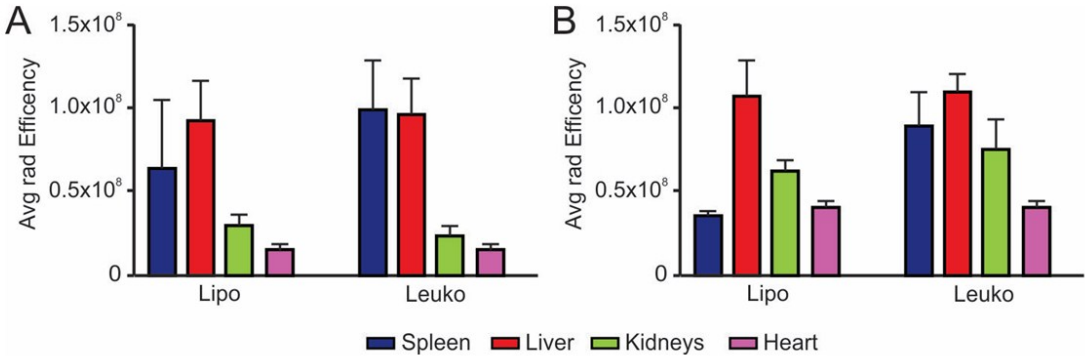
Supplementary Figure S4. qRT-PCR analysis of gene expression of activated macrophages (M^{Φ}) isolated *in vivo* from peripheral blood at 2 and 6h after liposomes (Lipo) and leukosomes (Leuko) administration in LPS-injected mice. Relative expression was calculated compared to not inflamed macrophages from healthy mice. Data are expressed as mean ± s.e.m. of three different biological replicates. (**P< 0.05, ***P< 0.005).

Supplementary Figure S5. Liposomes, leukosomes and exosomes particle count was measured using the NanoSight®. Particle count was normalized to total cell number. Leukosomes assembly through the microfluidic approach increased the yield of particle number more than 100-fold higher (average) than that of naturally produced exosomes from the same cell source (J774 macrophages).

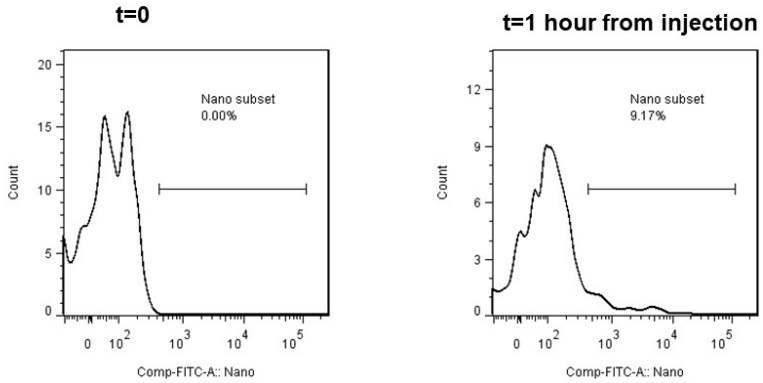
Supplementary Figure S6. qRT-PCR analysis of gene expression of non-activated (healthy) endothelial cells co-cultured with LPS-inflamed macrophages (M^{Φ}) for 24h in the presence or

absence of leukosomes and exosomes (Leuko and Exo, respectively). Relative expression was calculated compared to not inflamed endothelial cells co-cultured with inflamed macrophages. Data are expressed as mean ± s.d. of six different biological replicates. (*P< 0.5, **P< 0.05, ***P< 0.005, ****P<0.001).

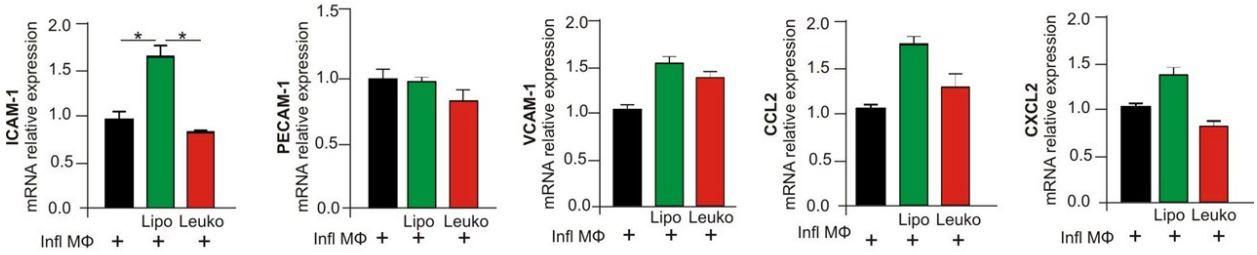
Supplementary Figure S1



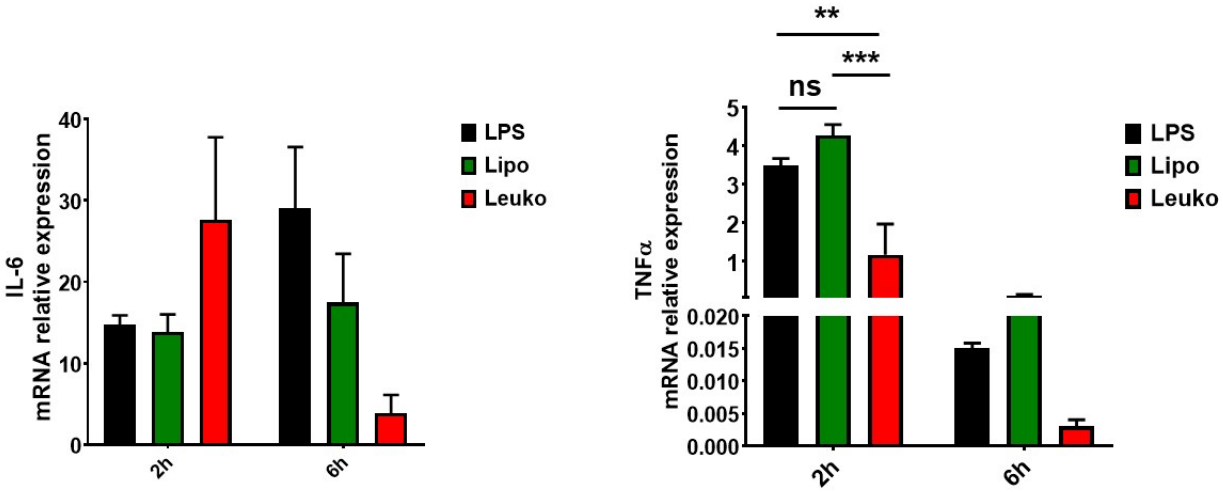
Supplementary Figure S2



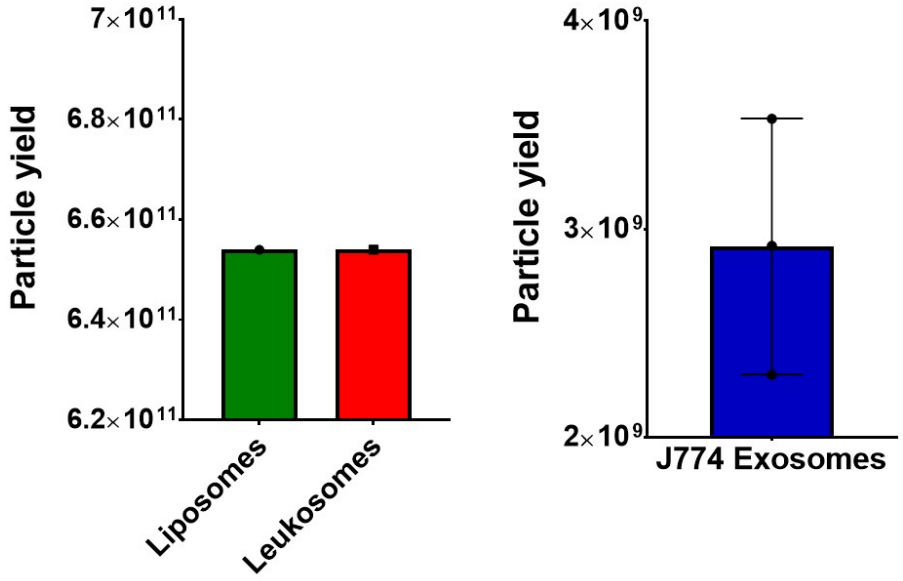
Supplementary Figure S3



Supplementary Figure S4



Supplementary Figure S5



Supplementary Figure S6