

Supplementary Material

Exosome-Niosome Hybrid Oxygen Carrier for Protection against Acetaminophen-induced Acute Liver Injury

Anika Bushra, Dalton Jayne, Thomas Locke, Xiaoxue Han, Timothy M. Fan, Gregory H.

*Underhill, and Joseph Irudayaraj**

* Correspondence: jirudaya@illinois.edu

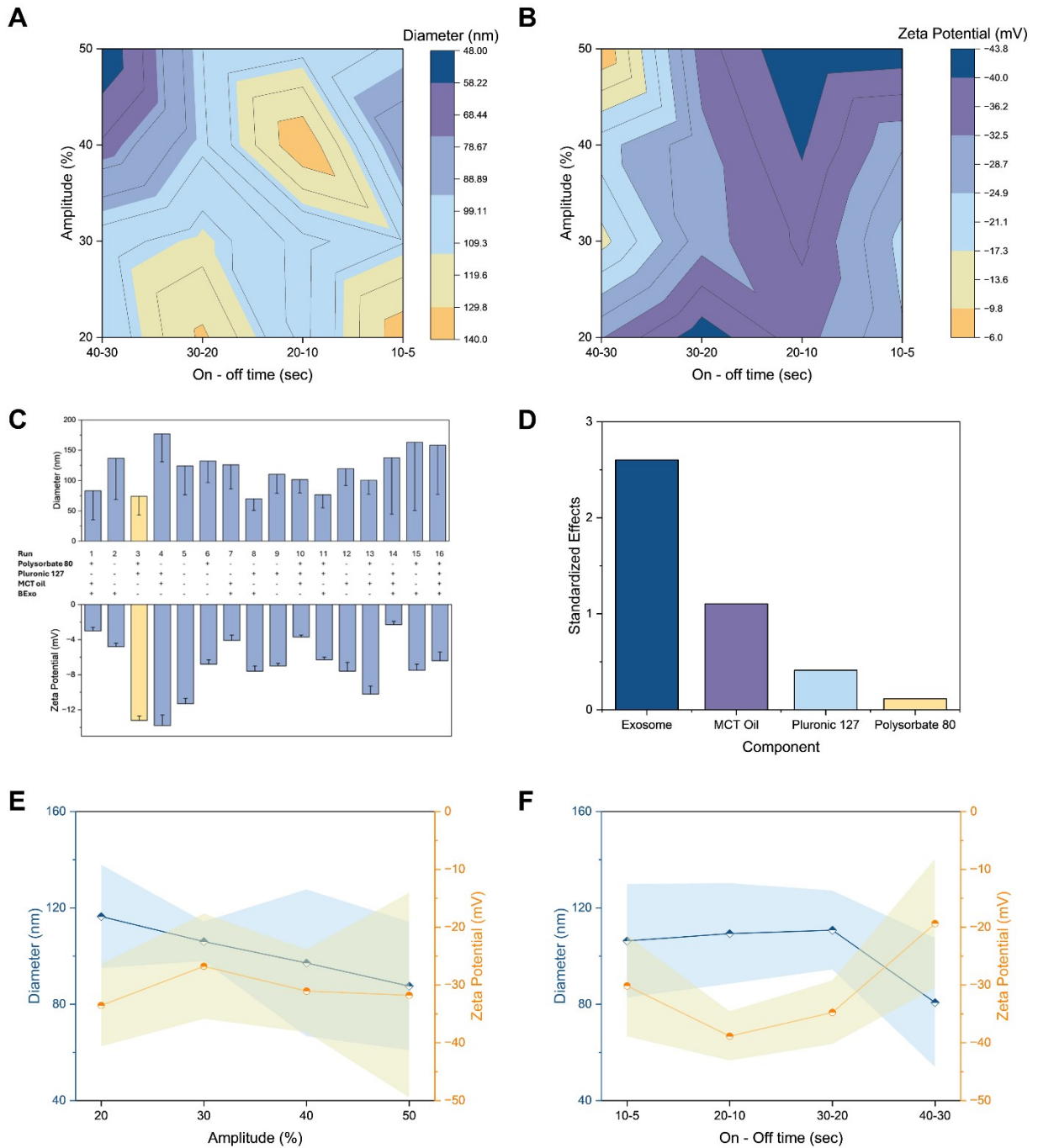


Fig. S1 Optimization of ENh-OC size (A) and zeta potential (B) by varying sonication amplitude and duration of on-off steps, (C) optimization of ENh-OC size and zeta potential by varying composition, (+) indicates higher concentration level and (-) indicates lower concentration level, (D) standardized effect plot for components of ENh-OC from 2-level full factorial DoE model,

variation of size and zeta potential with amplitude (E), and duration of on-off cycles in sonication (F).

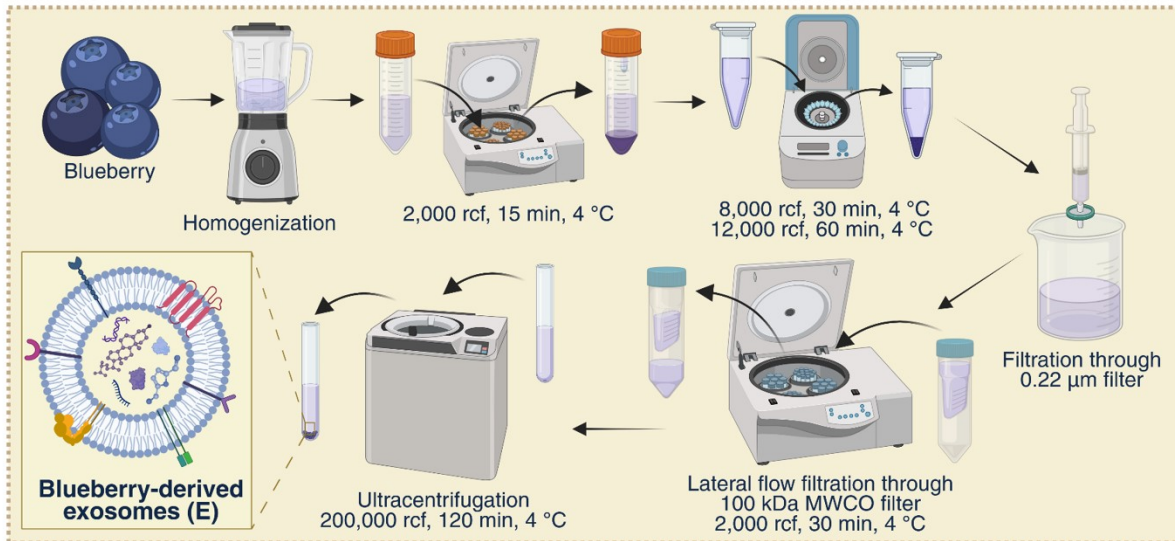


Fig. S2 Schematic showing the extraction steps for blueberry-derived exosomes. (Created in <https://BioRender.com>.)

Table. S1 Primers used in the study.

Gene name	Species	Forward primer	Reverse Primer
HIF-1 α	Human	5' GTC TGA GGG GAC AGG AGG AT 3'	5' CTC CTC AGG TGG CTT GTC AG 3'
VEGF-A	Human	5' CGA AAG CGC AAG AAA TCC CG 3'	5' GCT CCA GGG CAT TAG ACA GC 3'
Nrf2	Human	5' CAC ATC CAG TCA GAA ACC AGT GG 3'	5' GGA ATG TCT GCG CCA AAA GCT G 3'
HO-1	Human	5' CCA GGC AGA GAA TGC TGA GTT C 3'	5' AAG ACT GGG CTC TCC TTG TTG C 3')
IL-1 β	Human	5' CCA CAG ACC TTC CAG GAG AAT G 3'	5' GTG CAG TTC AGT GAT CGT ACA GG 3'
TNF- α	Human	5' CTC TTC TGC CTG CTG CAC TTT G 3'	5' ATG GGC TAC AGG CTT GTC ACT C 3'
β -actin	Human	5' GGA TTC CTA TGT GGG CGA CGA 3'	5' GCG TAC AGG GAT AGC ACA GC 3'
HIF-1 α	Mouse	5' CCT GCA CTG AAT CAA GAG GTT GC 3'	5' CCA TCA GAA GGA CTT GCT GGC T 3'
VEGF-A	Mouse	5' CTG CTG TAA CGA TGA AGC CCT G 3'	5' GCT GTA GGA AGC TCA TCT CTC C 3'
Nrf2	Mouse	5' CAG CAT AGA GCA GGA CAT GGA G 3'	5' GAA CAG CGG TAG TAT CAG CCA G 3'
HO-1	Mouse	5' CAC TCT GGA GAT GAC ACC TGA G 3'	5' GTG TTC CTC TGT CAG CAT CAC C 3'
IL-1 β	Mouse	5' TGG ACC TTC CAG GAT GAG GAC A 3'	5' GTT CAT CTC GGA GCC TGT AGT G 3'
TNF- α	Mouse	5' GGT GCC TAT GTC TCA GCC TCT T 3'	5' GCC ATA GAA CTG ATG AGA GGG AG 3'
GAPDH	Mouse	5' AAG AAG GTG GTG AAG CAG GCA TC 3'	5' CGA AGG TGG AAG AGT GGG AGT TG 3'