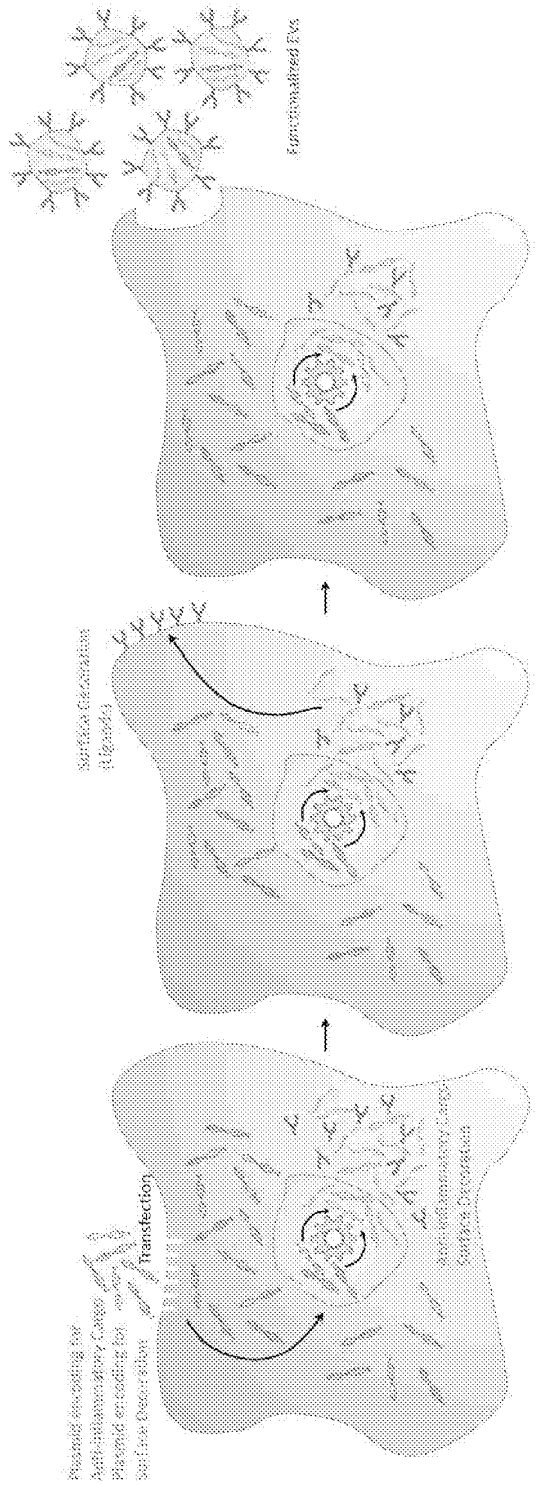



FIG. 1

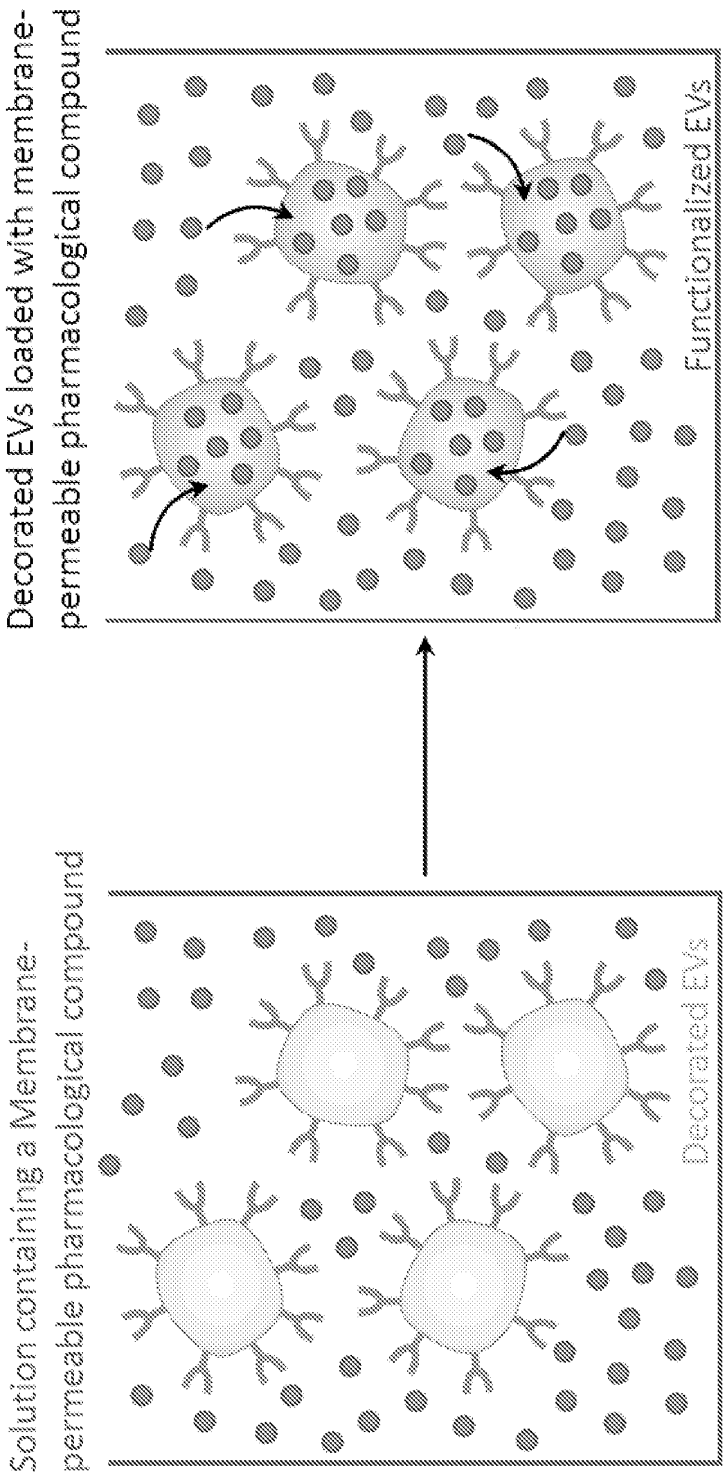

Solution containing a Membrane-permeable pharmacological compound
Decorated EVs
Decorated EVs loaded with membrane-permeable pharmacological compound
Functionalized EVs

FIG. 2

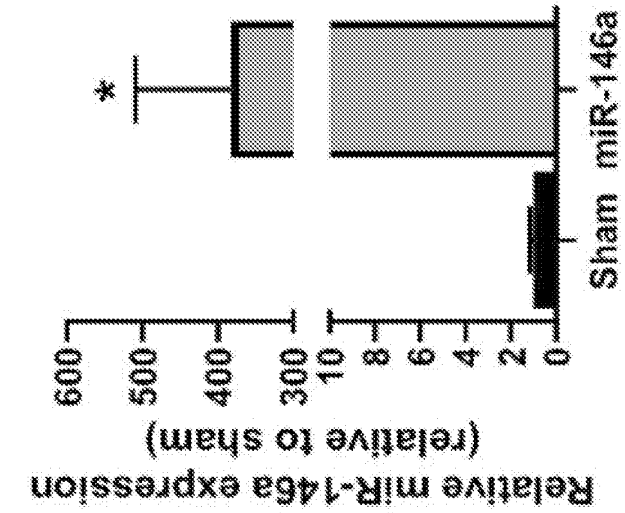



FIG. 3C

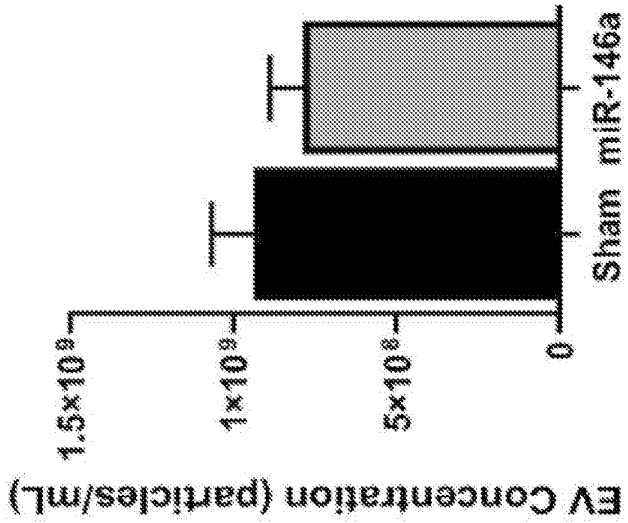



FIG. 3B

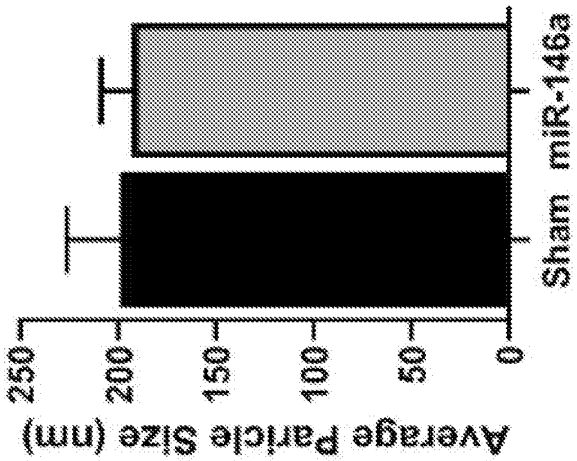



FIG. 3A

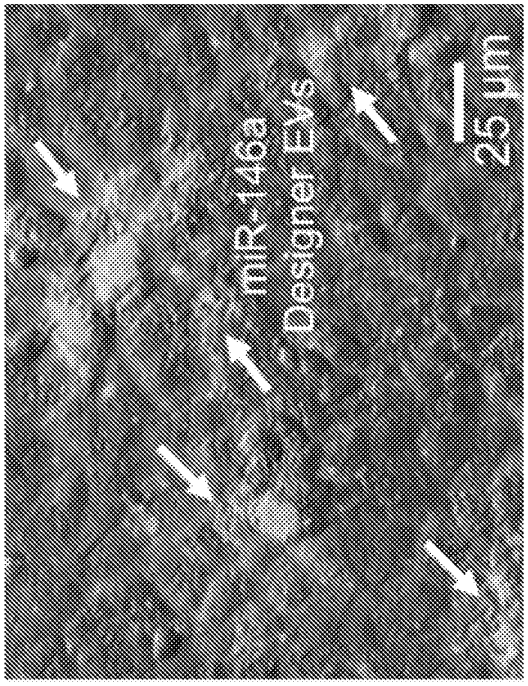

miR-146a
Designer EVs
25 um

FIG. 3E

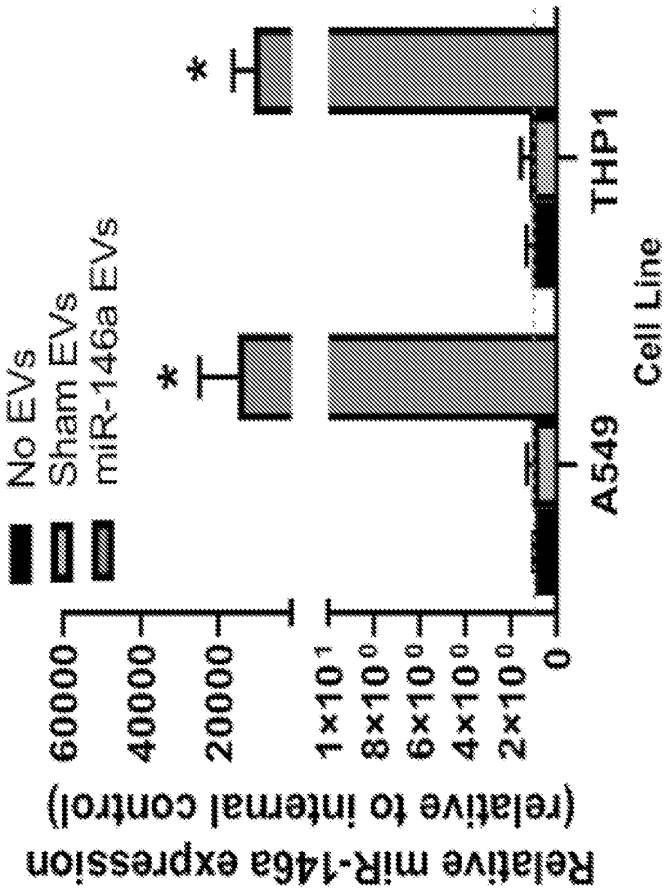

Relative miR-146a expression
(relative to internal control)
60000
40000
20000
0
1x10^1
8x10^0
6x10^0
4x10^0
2x10^0
No EVs
Sham EVs
miR-146a EVs
*
*
A549
THP1
Cell Line

FIG. 3D

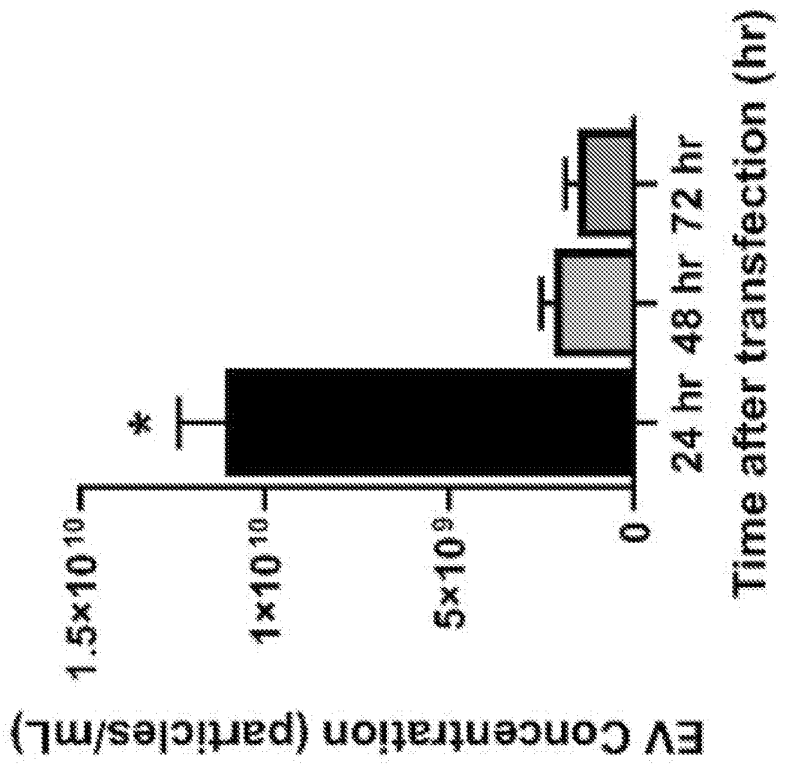

EV Concentration (particles/mL)
1.5×10^10
1×10^10
5×10^9
0
*
24 hr 48 hr 72 hr
Time after transfection (hr)

FIG. 3G

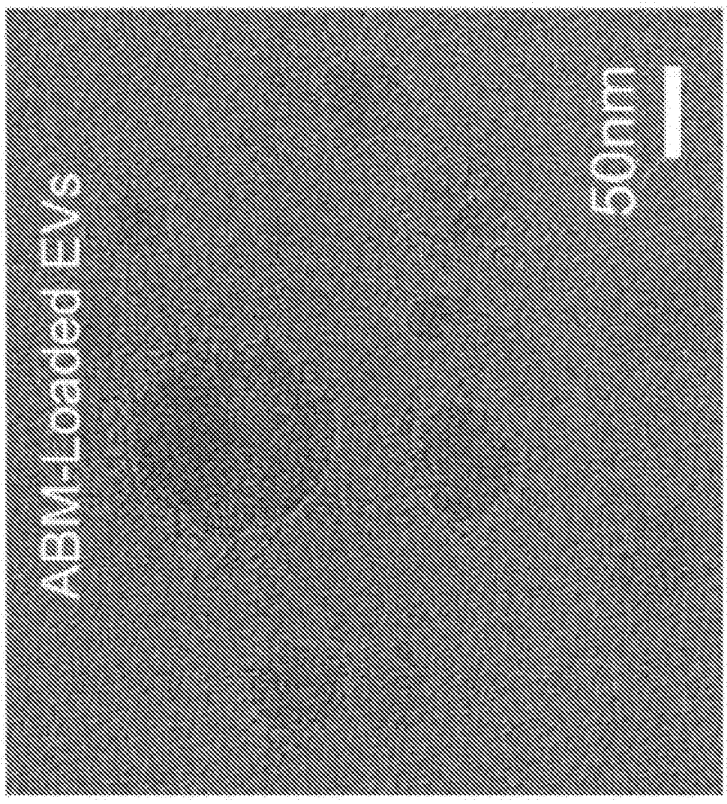

ABM-Loaded EVs
50nm

FIG. 3F

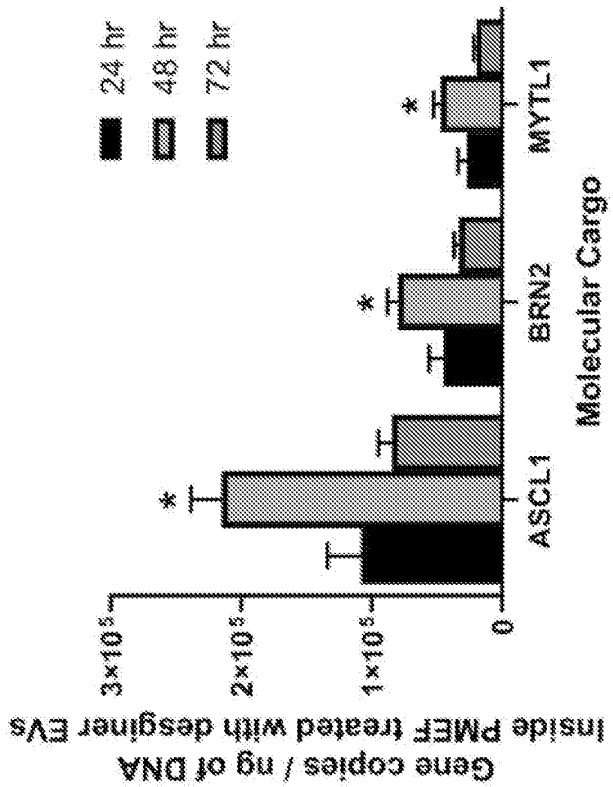

24 hr
48 hr
72 hr
3×10^5
2×10^5
1×10^5
0
*
*
*
ASCL1
BRN2
MYTL1
Molecular Cargo
Gene copies / ng of DNA
Inside PMEF treated with desginer EVs

FIG. 3I

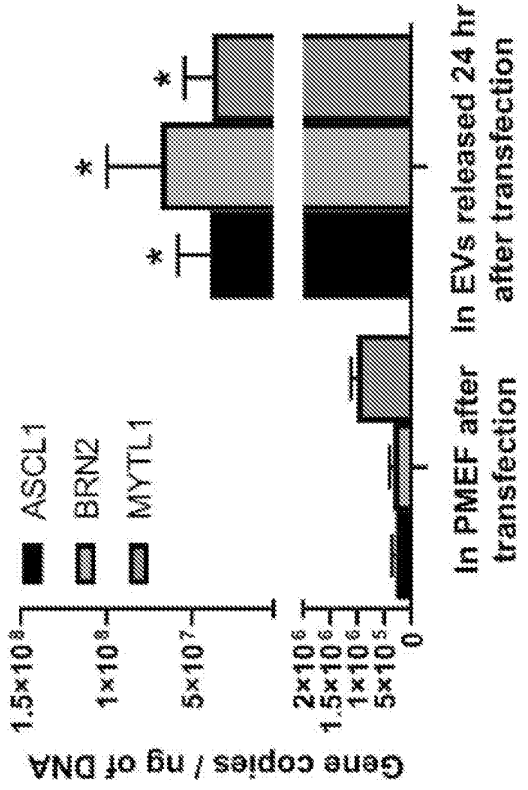

ASCL1
BRN2
MYTL1
1.5×10^8
1×10^8
5×10^7
2×10^6
1.5×10^6
1×10^6
5×10^5
0
*
*
*
In PMEF after transfection
In EVs released 24 hr after transfection
Gene copies / ng of DNA

FIG. 3H

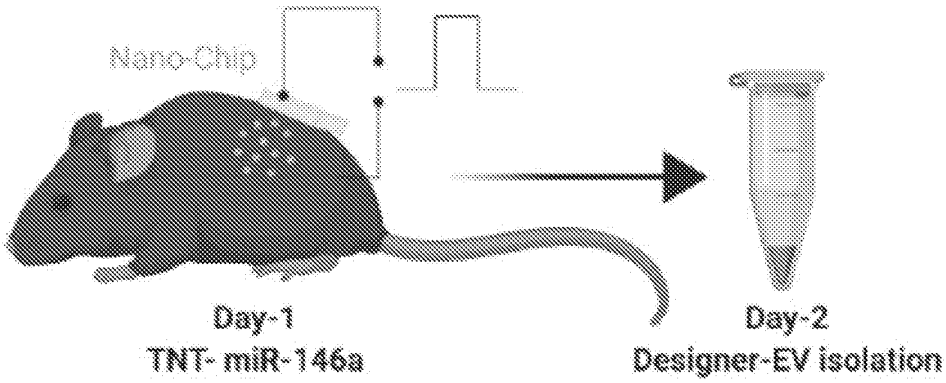



FIG. 4A

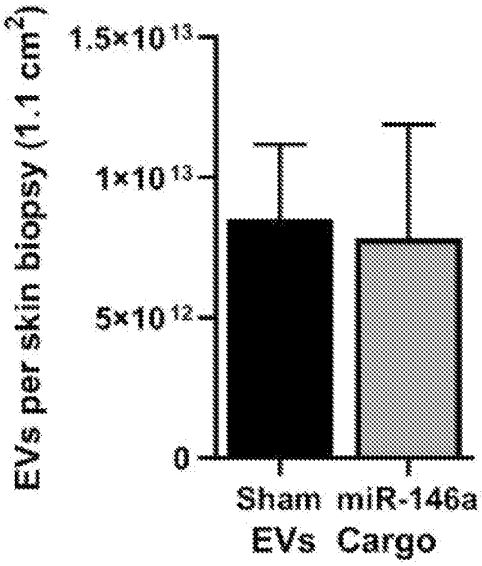



FIG. 4B

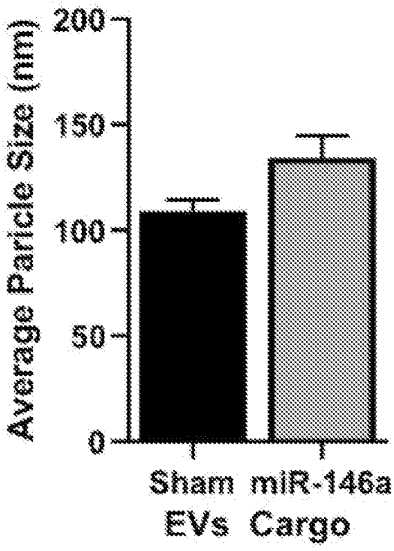



FIG. 4C

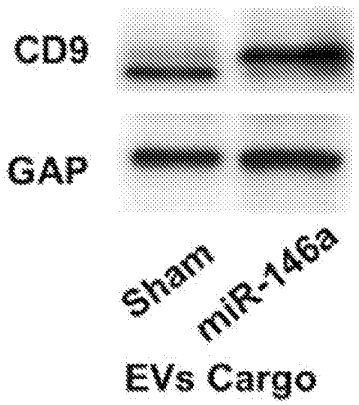



FIG. 4D

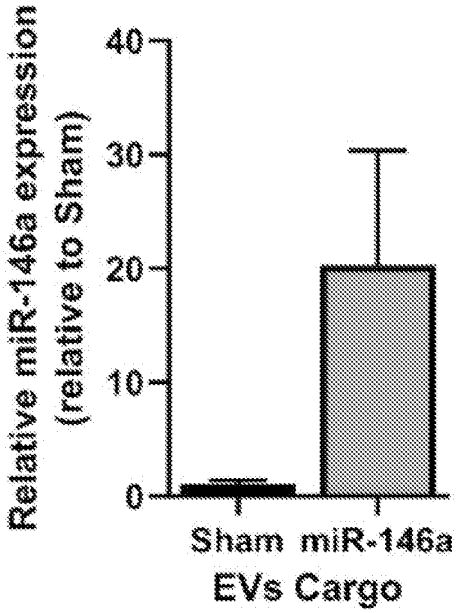



FIG. 4E

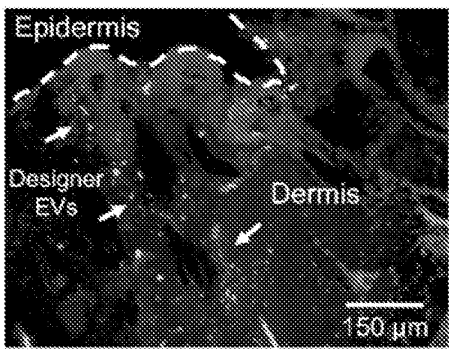



FIG. 4F

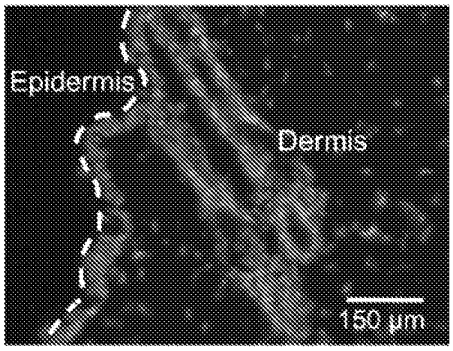



FIG. 4G

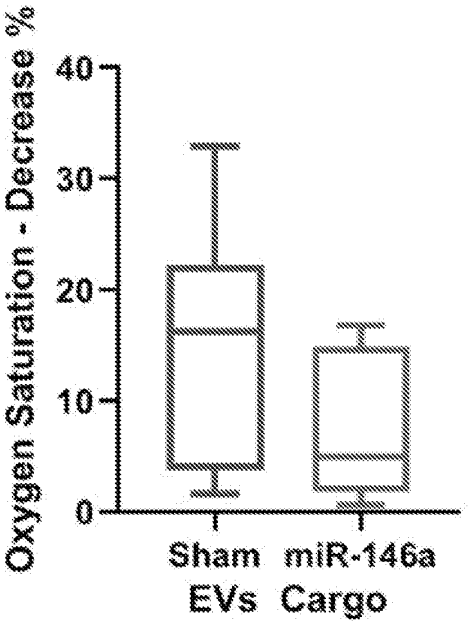



FIG. 5A

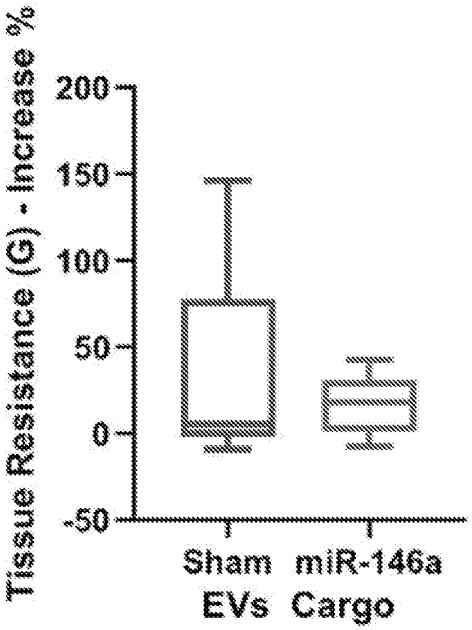



FIG. 5B

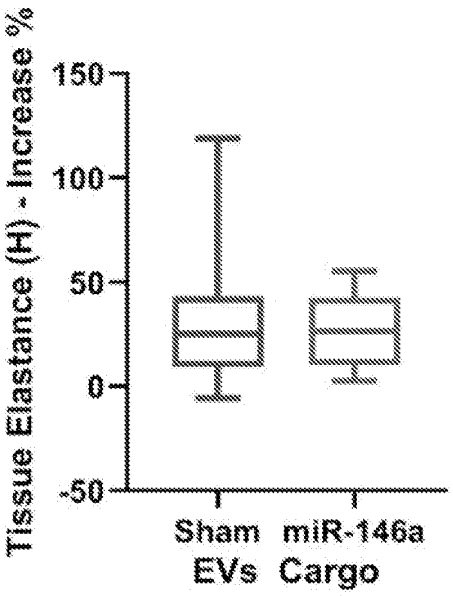



FIG. 5C

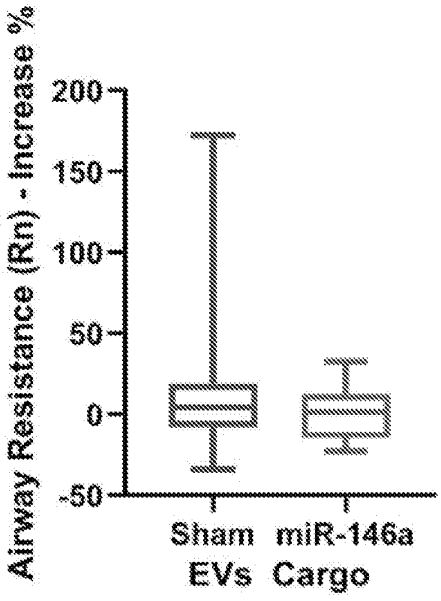



FIG. 5D

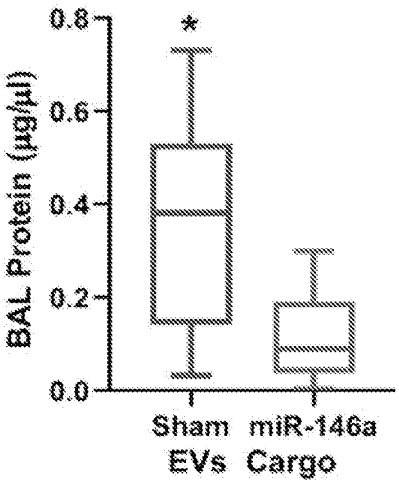

BAL Protein (µg/µl)
0.8
0.6
0.4
0.2
0.0
*
Sham EVs
miR-146a Cargo

FIG. 5E

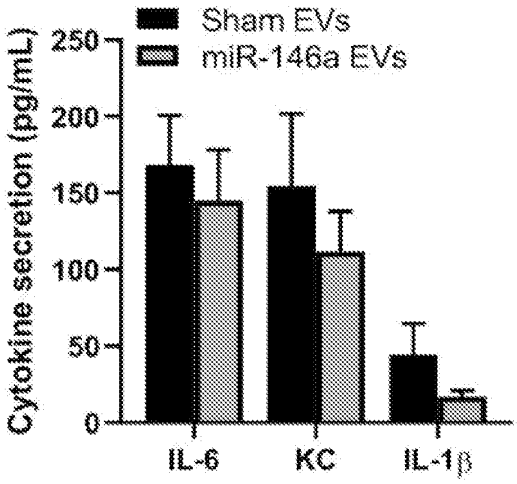

Cytokine secretion (pg/mL)
250
200
150
100
50
0
Sham EVs
miR-146a EVs
IL-6
KC
IL-1β

FIG. 5F

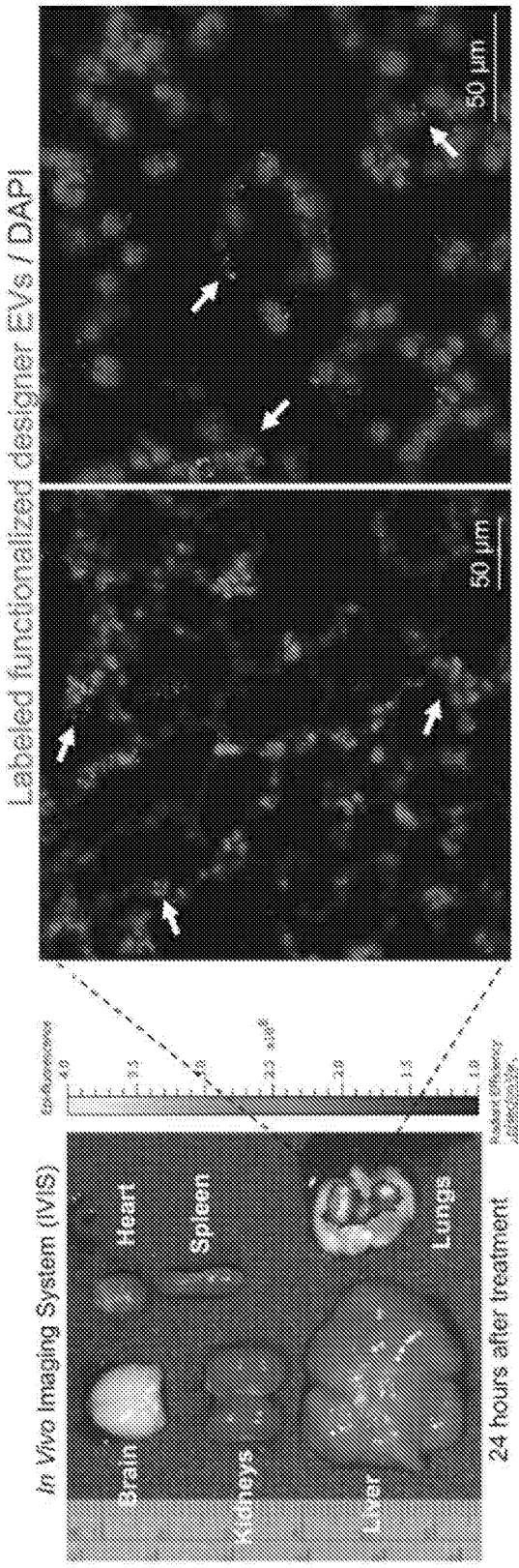

In Vivo Imaging System (IVIS)
Brain
Heart
Spleen
Kidneys
Liver
Lungs
24 hours after treatment

FIG. 6A


Labeled functionalized designer EVs / DAPI
50 µm
50 µm

FIG. 6B