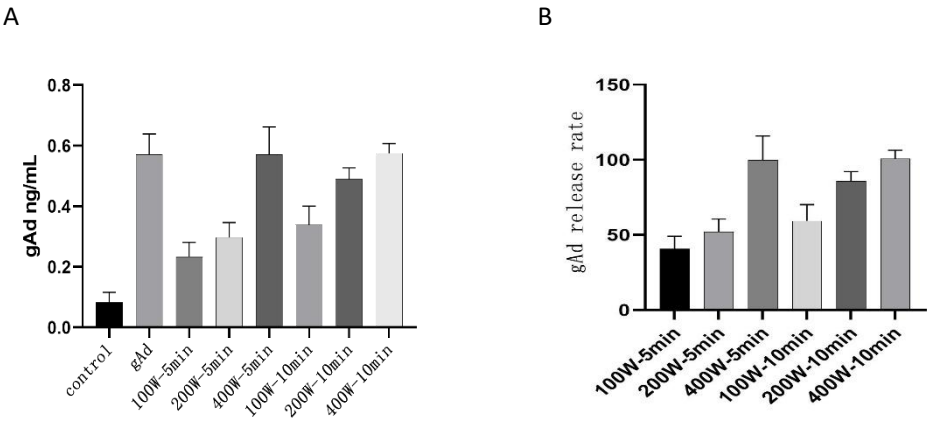
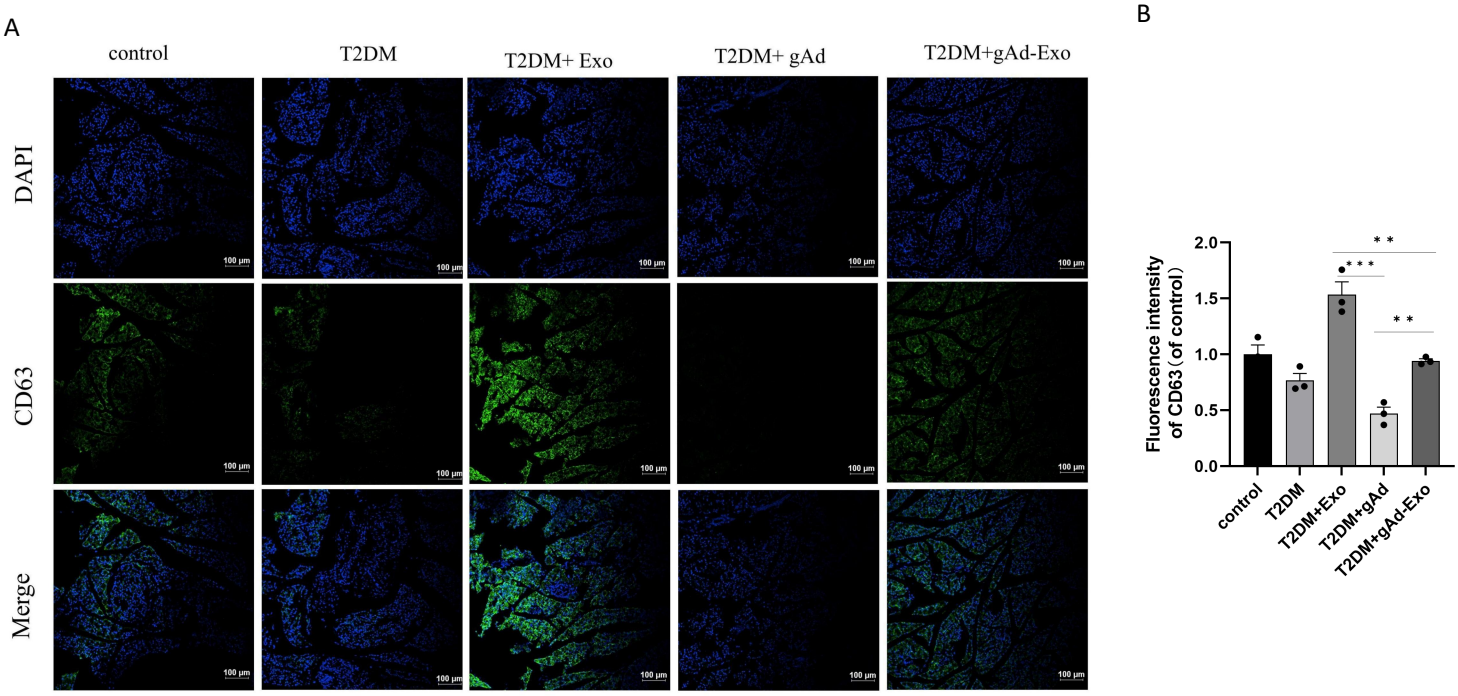
gAd-Exo was ultrasonically treated at 20,000 Hz (power: 100W, 200W, 400W) for 5 and 10 minutes respectively to detect the gAd content and evaluate the gAd release efficiency. The gAd release rate = (the drug released after ultrasound/the drug encapsulated in the liposome) ×100%



Supplementary Figure 1 A : the gAd content;B: the gAd release rate



Supplementary Figure 2 A： Fluorescence intensity of exosome marker CD63; B: bar chart of CD63 fluorescence intensity（scale bars =100μm，n=3）

NTA

PARTICLEMETRIX
www.particle-metrix.de

Electrophoresis & Brownian Motion
Video Analysis
Laser Scattering Microscopy

Video Operator: ZetaUser

Operator (Report): ZetaUser

Sample Parameters
Sample Name: 15
Comment: PS 100 nm/ dilution 1:250,000/ 520 nm laser
Sample Remarks0:
Sample Remarks1:
Sample Remarks2:
Electrolyte: PBS
Temperature: 26.70 °C sensed
pH 7.0 entered

Instrument Parameters
Laser Wavelength: 520 nm
Filter Wavelength: Scatter

SOP: Ev
Size Distribution 1 Cycle 11 Positions, 1 Removed for Analysis

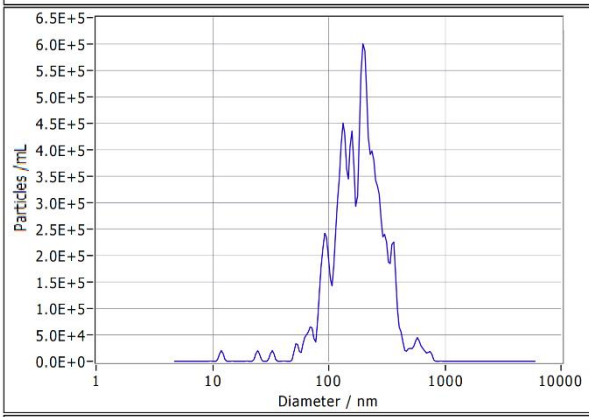
Result (sizes in nm)

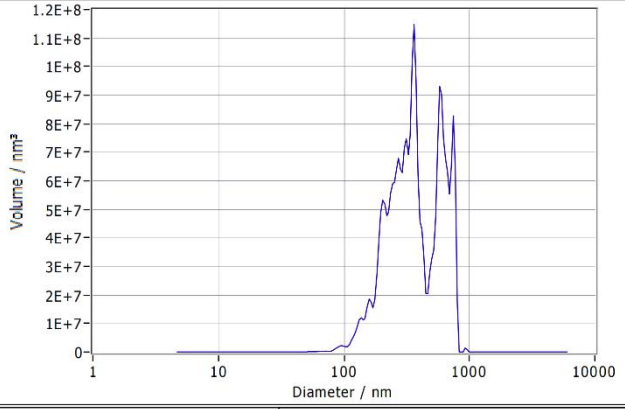
	Number	Concentration	Volume
Median (X50)	183.8	183.8	350.4
Span	104.2	104.0	182.6

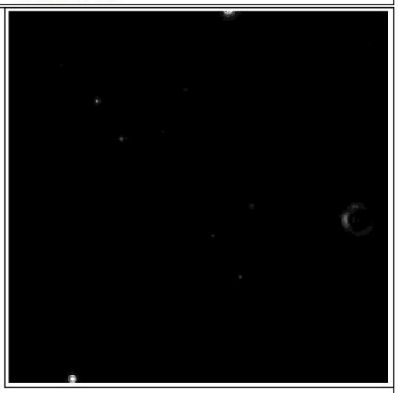
Concentration: 1.5E+7 Particles / mL
Dilution Factor: 240
Original Concentration: 3.6E+9 Particles / mL

Quality
Average Counted Particles per Frame: 37
Number of Traced Particles: 302

Analysis Parameters
Max Area: 1000, Min Area: 5, Min Brightness: 20







Peak Analysis (Concentration)

Diameter / nm	Particles/mL	FWHM / nm	Percentage
199.9	6.0E+5	45.4	49.2
133.5	4.5E+5	23.8	20.2
351.3	2.2E+5	49.6	9.7
93.4	2.4E+5	16.0	9.4
157.7	4.3E+5	11.0	7.9

X Values (all sizes are given in nm)

	Number	Concentration	Volume
X10	92.9	92.9	193.0
X50	183.8	183.8	350.4
X90	322.2	322.2	664.6
Span	1.2	1.2	1.3
Mean	201.5	201.5	404.0
StdDev	104.2	104.0	182.6

Comment

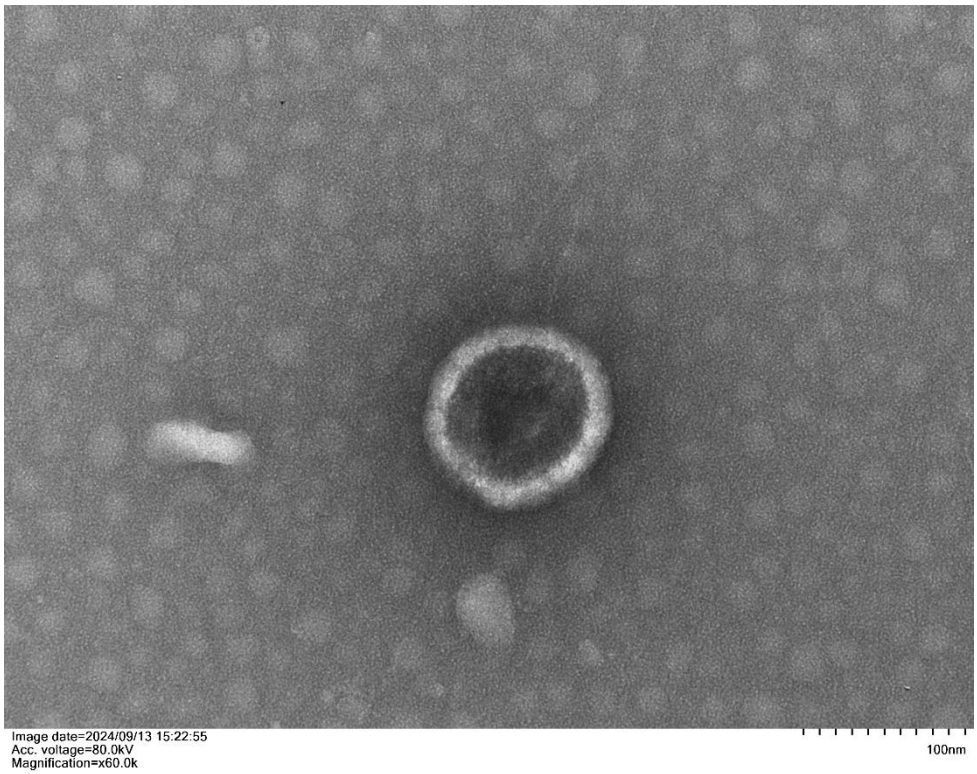
(Signature)

Analyzed Video: Z:\NTA data\20240918\20240918_0018_15_size_520.avi

ZetaVIEW S/N 20-602, Software ZetaView (version 8.05.14 SP7)

Experiment: 2024-09-18 10:41, Report: 2024-09-18 10:43

TEM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Magnification=x60.0k
100nm

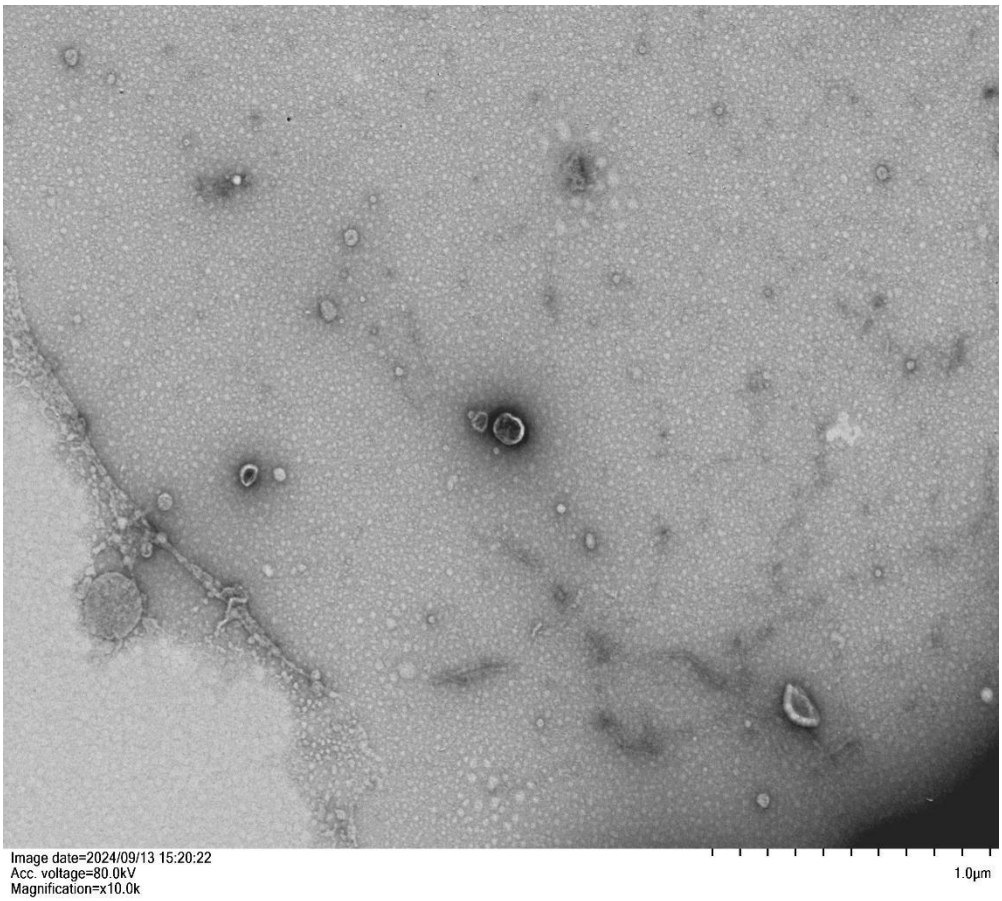
Image date=2024/09/13 15:20:22
Acc. voltage=80.0kV
Magnification=x10.0k
1.0μm