

Materials List for:

Synthesis of Gold Nanoparticle Integrated Photo-responsive Liposomes and Measurement of Their Microbubble Cavitation upon Pulse Laser Excitation

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Materials

Name	Company	Catalog Number	Comments
1,2-Dipalmitoyl- <i>sn</i> -glycero-3-phosphocholine (DPPC)	Avanti Polar Lipids (Alabama, US)	850355P	Powder, Store at -20 °C
1-palmitoyl-2-hydroxy- <i>sn</i> -glycero-3-phosphocholine (MPPC)	Avanti Polar Lipids (Alabama, US)	855675P	Powder, Store at -20 °C
1,2-distearoyl- <i>sn</i> -glycero-3-phosphoethanol-amine- <i>N</i> -[methoxy(polyethylene glycol)-2000] (ammonium salt) (DSPE-PEG2000)	Avanti Polar Lipids (Alabama, US)	880120P	Powder, Store at -20 °C
Gold Nanoparticles	Sigma Aldrich	752568-100mL	5 nm particles, stabilized at 0.1 mM PBS
Calcein	Sigma Aldrich	C0875-10g	60 mM, pH 7.4 (adjusted using NaOH)
phosphate buffered saline (PBS)	Sigma Aldrich	P5493	0.1 mM, pH 7.4
Double distilled water	Millipore Milli-DI water purification system		
Triton X100	Sigma, Life Sciences	X-100	To disrupt the liposomes to calculate total encapsulation
Rotavapor	Buchi (Switzerland)	R 210	Used for Liposome preparation
Heating bath	Buchi (Switzerland)	B 491	Used for Liposome preparation
Vacuum Controller	Buchi (Switzerland)	V-850	Used for Liposome preparation
Vacuum Pump	Buchi (Switzerland)	V-700	Used for Liposome preparation
Recirculation bath with temperature controller	Polyscience		Used for Liposome preparation
Mini-extruder assembly with heating block	Avanti Polar Lipids (Alabama, US)	610000	Used for extrusion of liposomes
Syringes, 1,000 µl	Avanti Polar Lipids (Alabama, US)	610017	Used for extrusion of liposomes
Polycarbonate filter membrane, 200 nm	Whatmann	800281	Used for extrusion of liposomes
Filter Support	Avanti Polar Lipids (Alabama, US)	610014	Used for extrusion of liposomes
PD 10 Desalting columns, Sephadex G-25 medium	GE Healthcare, Life sciences	17-0851-01	Used to purify the liposomes
Centrifuge	Sigma Laboratory Centrifuges	3K30	Used to concentrate the liposomal solution
Rotor	Sigma	19777-H	Used to concentrate the liposomal solution
Zetasizer	Nano ZS Malvern		Used for the determination of liposome size and zeta potential

UV-Visible Spectrophotometer	Shimadzu	UV-2450	Used to measure the absorbance of the samples
Fluorescent Spectrofluorometer	Molecular Devices	SpectraMax M5	Used to measure the fluorescence emission of the samples
Nd:YAG Laser	NewWave Research		532 nm; Maximum power: 17 mJ; Width: 406 nsec; Used for sample irradiation
HNR Hydrophone	ONDA	HNR-1000	1 mm diameter and 450 nV/Pa sensitivity, Proper working frequency range: 0.25-10 MHz; Calibration: 50 mV/Bar; Used to measure the acoustic signals
Digital Oscilloscope	LECORY - Wave Runner 64Xi-A		Frequency: 600 MHz; Max sample rate: 10 Gs/sec (at two channel); Used to record the measured acoustic signals