

Materials List for:

Comprehensive Evaluation of the Effectiveness and Safety of Placenta-Targeted Drug Delivery Using Three Complementary Methods

Baozhen Zhang¹, Zhilong Chen^{1,2}, Jinyu Han^{1,3}, Mengxia Li¹, Nihar R. Nayak⁴, Xiujun Fan¹

¹Laboratory for Reproductive Health, Institute of Biomedicine and Biotechnology, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences

²College of Veterinary Medicine, Hunan Agricultural University

³Key Laboratory of Chemical Engineering Process and Technology for High-efficiency Conversion, College of Chemistry and Material Sciences, Heilongjiang University

⁴Department of Obstetrics and Gynecology, Wayne State University School of Medicine

Correspondence to: Xiujun Fan at xj.fan@siat.ac.cn

URL: <https://www.jove.com/video/58219>

DOI: [doi:10.3791/58219](https://doi.org/10.3791/58219)

Materials

Name	Company	Catalog Number	Comments
CD-1 mice	Beijing Vital River	201	Female (8-12 week)
Insulin syringe	BD	328421	for IV injection
Ethanol absolute	Sinopharm Chemical	10009218	for nanoparticles synthesis
Soybean lecithin	Avanti Polar Lipids	441601	for nanoparticles synthesis
DSPE-PEG-COOH	Avanti Polar Lipids	880125	for nanoparticles synthesis
PLGA	Sigma-Aldrich	719897	for nanoparticles synthesis
Ultrasonic processor	Sonics	VCX130	for nanoparticles synthesis
Methotrexate (MTX)	Sigma-Aldrich	V900324	for nanoparticles synthesis
Indocyanine green (ICG)	Sigma-Aldrich	1340009	for in vivo imaging
phosphate-buffered saline (PBS)	Hyclone	SH30028.01	
IVIS spectrum instrument	Perkin Elmer		for in vivo imaging
Ultrasound transmission gel	Guanggong	ZC4252418	for ultrasound imaging
Isoflurane	Lunan Pharmaceutical	I0040	for maintain the anesthesia
Depilatory cream	Nair	TMG001	for removing fur
40 MHz transducer	VisualSonics	MS550S	for ultrasound imaging
High-frequency ultrasound imaging system	VisualSonics	Vevo2100	for ultrasound imaging
Avertin	Sigma-Aldrich	T48402	for anesthesia
Syringe pump	Mindray	SK-500III	for cardiac perfusion
0.9% saline solution	Meilunbio	MA0083	for cardiac perfusion
1.5 mL Polypropylene tubes	AXYGEN	MCT-150-C	
-80 °C freezer	Thermo Fisher Scientific	88600V	
Centrifuge	Cence	H1650R	
Perchloric acid	Sigma-Aldrich	311421	for precipitating protein
Homogenizer	SCIENTZ	SCIENTZ-48	for homogenizing tissue
Syringe filter (0.45 µm)	Millipore	SLHV033RS01	
Sodium hydroxide	Sinopharm Chemical	10019763	for solving MTX
HPLC vials	Waters	670650620	for HPLC
Potassium phosphate dibasic	Sinopharm Chemical	20032117	for HPLC
Acetonitrile	JKchemical	932537	for HPLC
C18 column	Waters	186003966	for HPLC

HPLC system	Shimadzu		for HPLC
-------------	----------	--	----------