

Materials List for:

Synthesis and Characterization of Placental Chondroitin Sulfate A (pICSA)-Targeting Lipid-Polymer Nanoparticles

Baozhen Zhang^{*1}, Mingbin Zheng^{*2,3}, Lintao Cai², Xiujun Fan¹

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

²Guangdong Key Laboratory of Nanomedicine, CAS Key Lab for Health Informatics, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences (CAS)

³Department of Chemistry, Guangdong Medical University

*These authors contributed equally

Correspondence to: Lintao Cai at lt.cai@siat.ac.cn, Xiujun Fan at xj.fan@siat.ac.cn

URL: <https://www.jove.com/video/58209>

DOI: [doi:10.3791/58209](https://doi.org/10.3791/58209)

Materials

Name	Company	Catalog Number	Comments
pICSA peptide	Shanghai GL Biochem	573518	for peptide synthesis
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
Doxorubicin	JKChemical	113424	for nanoparticles synthesis
Acetonitrile	Shanghai Lingfeng	1008621	for nanoparticles synthesis
PLGA	Sigma-Aldrich	719897	for nanoparticles synthesis
Ultrasonic processor	Sonics	VCX130	for nanoparticles synthesis
Centrifuge filter (MWCO 10 kDa)	Millipore	UFC801024	for nanoparticles purification
centrifuge	Sigma	3-18KS	for nanoparticles purification
2-[morpholino]ethanesulfonic acid(MES)	Sigma-Aldrich	M3671	for peptide conjugation
1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride (EDC)	Sigma-Aldrich	3450	for peptide conjugation
N-hydroxysuccinimide (NHS)	Sigma-Aldrich	56480	for peptide conjugation
Dialysis bags	Spectrum	132592T	for nanoparticles purification
PBS	Hyclone	SH30028.01	for cell culture
10 mL centrifuge tubes, polypropylene	Aladdin	S-025	for nanoparticles synthesis
15 mL centrifuge tubes, polypropylene	Corning	430791	for various applications
0.22 µm sterile syringe filter	Millipore	SLGV033RB	for nanoparticles purification
1 ml syringe, polypropylene	BD	328421	for nanoparticles synthesis
Malvern Zetasizer	Malvern	Nano ZS	for particle size analyser
Phosphotungstic acid			for TEM
TEM grid	EMCN	BZ10024a	for TEM
UV-VIS spectrometer	Leagene	DZ0035	for TEM
Transmission electron microscope	JEOL	JEM-100CXII	for particle size analyser
BCA reagent A	Thermo Fisher Scientific	23228	for BCA assay
BCA reagent B	Thermo Fisher Scientific	23224	for BCA assay
96-Well Plates	Corning	3599	for BCA assay
Plate reader	Thermo Fisher Scientific	Multiskan™ GO	for BCA assay

12-well plates	Corning	3513	for cell culture
JEG3 cell	Cell Bank of the Chinese Academy of Sciences	TCHu195	Human placenta
DMEM/F12	Hyclone	SH30272.01	phenol red-free
Fetal bovine serum (FBS)	GIBCO	10100	for cell culture
Penicillin/streptomycin	GIBCO	15070063	for cell culture
Fluorescence microscope	OLYMPUS	CKK53	for cellular uptake
Paraformaldehyde	Shanghai Lingfeng	1372021	for cellular uptake
DAPI	Sangon Biotech	A606584	for cellular uptake
Mounting medium	Life	P36961	for cellular uptake