

Materials List for:

Polyethyleneimine-coated Iron Oxide Nanoparticles as a Vehicle for the Delivery of Small Interfering RNA to Macrophages *In Vitro* and *In Vivo*

Na Jia¹, Haoan Wu², Juanli Duan¹, Chunxue Wei¹, Kaixuan Wang², Yu Zhang², Xiaohua Mao¹

¹Key Laboratory of Ministry of Education for Developmental Genes & Human Diseases, Institute of Life Sciences and School of Medicine, Southeast University

²State Key Laboratory of Bioelectronics, Jiangsu Key Laboratory for Biomaterials & Devices, School of Biological Science & Medical Engineering, Southeast University

*These authors contributed equally

Correspondence to: Yu Zhang at Zhangyu@seu.edu.cn, Xiaohua Mao at xmao@seu.edu.cn

URL: <https://www.jove.com/video/58660>

DOI: [doi:10.3791/58660](https://doi.org/10.3791/58660)

Materials

Name	Company	Catalog Number	Comments
DMEM	Gibco	C11995500BT	Warm in 37°C water bath before use
Fetal bovine serum	Gibco	A31608-02	
Penicillin/streptomycin (1.5 ml)	Gibco	15140122	
Tetrazolium-based MTS assay kit	Promega	G3582	For cytotoxicity analysis
RAW 264.7 cell line	Cell Bank of Chinese Academy of Sciences, Shanghai, China	TCM13	
Tissue culture plates (6-well)	Corning	3516	
Tissue culture dishes (10 cm)	Corning	430167	
RNase-free tubes (1.5 ml)	AXYGEN	MCT-150-C	
Centrifuge tubes (15 ml)	Corning	430791	
Trypsin	Gibco	25200-056	
Wistar rats	Shanghai Experimental Animal Center of Chinese Academy of Sciences		
Bacillus Calmette–Guérin freeze-dried powder	National Institutes for Food and Drug Control, China		for inducing adjuvant arthritis in rats
siRNA	GenePharma (Shanghai, China)		
Cy3-siRNA	RiboBio (Guangzhou, China)		
Polyethyleneimine (10 kDa)	Aladdin Chemical Reagent Co., Ltd.	E107079	
Ammonia water	Aladdin Chemical Reagent Co., Ltd.	A112077	
Oleic acid	Aladdin Chemical Reagent Co., Ltd.	O108484	
Dimethylsulfoxide	Aladdin Chemical Reagent Co., Ltd.	D103272	
FeSO ₄ ·7H ₂ O	Sinopharm Chemical Reagent Co., Ltd	10012118	
FeCl ₃ ·6H ₂ O	Sinopharm Chemical Reagent Co., Ltd	10011918	
Dimercaptosuccinic acid	Aladdin Chemical Reagent Co., Ltd.	D107254	
ultrafiltration tube	Millipore	UFC910096	
Tetramethylammonium hydroxide solution	Aladdin Chemical Reagent Co., Ltd.	T100882	

Particle size and zeta potential analyzer	Malvern, England	Nano ZS90	
---	------------------	-----------	--