

Materials List for:

Preparation of Giant Vesicles Encapsulating Microspheres by Centrifugation of a Water-in-oil Emulsion

Yuno Natsume¹, Hsin-i Wen², Tong Zhu², Kazumi Itoh¹, Li Sheng², Kensuke Kurihara^{2,3,4}

¹Department of Mathematical and Physical Sciences, Faculty of Science, Japan Women's University

²Department of Bioorganization Research, Okazaki Institute for Integrative Bioscience, National Institutes of Natural Sciences

³Department of Life and Coordination-Complex Molecular Science, Institute for Molecular Science, National Institutes of Natural Sciences

⁴Research Center for Complex Systems Biology, The University of Tokyo

Correspondence to: Yuno Natsume at natsumey@fc.jwu.ac.jp, Kensuke Kurihara at kkurihara@ims.ac.jp

URL: <https://www.jove.com/video/55282>

DOI: [doi:10.3791/55282](https://doi.org/10.3791/55282)

Materials

Name	Company	Catalog Number	Comments
REAGENTS:			
1,2-Dioleoyl- <i>sn</i> -glycero-3-phosphocholine (DOPC)	Avanti Polar Lipids	850375C	Vesicular membrane molecule
Texas Red 1,2-dihexadecanoyl- <i>sn</i> -glycero-3-phosphoethanolamine, triethylammonium salt (Texas Red DHPE)	Thermo Fisher Scientific	T1395MP	
1 M Tris-HCl (pH 7.5)	Nippon Gene Co.	318-90225	Buffer solution
D(+)-Glucose	Wako Pure Chemical Industries	049-31165	For outer water solution
Sucrose	Wako Pure Chemical Industries	196-00015	For inner water solution
Polybead carboxylate microspheres 1.0 μm	Polysciences	08226-15	Nonfluorescent, 2R = 1.0 μm
Fluoresbrite YG carboxylate microspheres 1.0 μm	Polysciences	15702-10	Fluorescent, 2R = 1.0 μm
Fluoresbrite YG carboxylate microspheres 0.10 μm	Polysciences	16662-10	Fluorescent, 2R = 0.10 μm
Fluorescein sodium salt (uranine)	Sigma Aldrich Japan	F6377-100G	
GFP standard (recombinant)	Vector Laboratories	MB-0752	
EQUIPMENT:			
Centrifuge 5427R	Eppendorf	5409000233	Centrifuge rotor: FA-45-48-11
Physoctron	Microtec Co.	NS-310EIII	Handy microhomogenizer
Generator shaft	Microtec Co.	NS-4	Homogenizer attachment
Frame-Seal incubation chambers for <i>in situ</i> PCR and hybridization	Bio-Rad Laboratories	SLF0201	Hybridization chamber volume: 25 μL Chamber size: 9 × 9 × 0.3 mm
Frame-Seal incubation chambers for <i>in situ</i> PCR and hybridization	Bio-Rad Laboratories	SLF0601	Hybridization chamber volume: 65 μL Chamber size: 15 × 15 × 0.3 mm
Microman E	Gilson	FD10006	Pipette for viscous liquid. We measured liquid paraffin by using this.
Inverted microscope	Olympus Co.	IX73	
Mirror unit	Olympus Co.	U-FBNA	Excitation filter: 470 - 495 nm Emission filter: 510 - 550 nm
Mirror unit	Olympus Co.	U-FMCHE	Excitation filter: 565 - 585 nm

		Emission filter: 600 - 690 nm
--	--	-------------------------------