

Materials List for

Proteolytically Degraded Alginate Hydrogels and Hydrophobic Microbioreactors for Porcine Oocyte Encapsulation

Gabriela Gorczyca¹, Kamil Wartalski², Zbigniew Tabarowski³, Malgorzata Duda¹

¹Department of Endocrinology, Institute of Zoology and Biomedical Research, Faculty of Biology, Jagiellonian University in Krakow ²Department of Histology, Jagiellonian University Medical College ³Department of Experimental Hematology, Institute of Zoology and Biomedical Research, Faculty of Biology, Jagiellonian University in Krakow

Corresponding Author

Malgorzata Duda
maja.duda@uj.edu.pl

Citation

Gorczyca, G., Wartalski, K., Tabarowski, Z., Duda, M. Proteolytically Degraded Alginate Hydrogels and Hydrophobic Microbioreactors for Porcine Oocyte Encapsulation. *J. Vis. Exp.* (), e61325, doi:10.3791/61325 (2020).

Date Published

July 30, 2020

DOI

10.3791/61325

URL

jove.com/video/61325

Materials

Name	Company	Catalog Number	Comments
General			
Antibiotic Antimycotic (100x) 100ml	Thermo Fisher	15240062	2.5% final concentration for Handling Medium. 1% in PBS (step 1.2)
DMEM/F12 (500ml)	Sigma-Aldrich	D8062	Handling and Maturation Medium
DPBS (w/o Ca, Mg), 1x, 500ml	Thermo Fisher	14190144	
FCS (100 ml)	Thermo Fisher	16140063	10% final concentration for both Handling Medium and Maturation Medium. (steps: 1.5. 2.6.)
PBS (1x, pH 7.4) 500ml	Thermo Fisher	10010023	
TBS Stock Solution (10x, pH 7.4) 500 ml	Cayman Chemicals	600232	1x final concentration. Other brand can be use
Maturation Medium			
hCG (1 VIAL of 10 000 U)	Sigma-Aldrich	CG10	
PMSG	BioVendor	RP1782721000	
Fibrin-alginate beads			
Alginate Lyase	Sigma-Aldrich	A1603	(Step 2.11.1)
Thrombin	Sigma-Aldrich	T9326-150UN	(Step 2.1)
Calcium Chloride	Sigma-Aldrich	C5670	(Step 2.1)
Fibrinogen (250mg)	Sigma-Aldrich	F3879	(Step 2.2)
Sodium Alginate	Sigma-Aldrich	W201502	(Step 2.3) use for alginate solution
Liquid Marble			
FEP	Dyneon GmbH 3M AdMD	A-66670	
Morphological examination			
LIVE/DEAD Viability/Cytotoxicity Kit, for mammalian cells	Thermo Fisher	L3224	(Step 4.1.) Emitted fluorescence: 494 nm for calcein, 528 nm for EthD-1; measure: 517 nm for calcein, 617 nm - EthD-1

VECTASHIELD Antifade Mounting Medium	Vector Laboratories	H-1000	mounting medium
Ultrastructure examination			
Glutaraldehyde solution	Sigma-Aldrich	G5882	2.5% final concentraion (Step 4.2.1.)
LR White resin	Sigma-Aldrich	L9774	(Step 4.2.4.)
Methylene blue	Sigma-Aldrich	M9140	(Step 4.2.5.)
Osmium Tetroxide	Sigma-Aldrich	O5500	(Step 4.2.3.)
Sodium cacodylate trihydrate	Sigma-Aldrich	C0250	Use for preparing 0.1M sodium cacodylate buffer (pH 7.2)
Uranyl Acetate	POCH	868540111	(Step 4.2.4.)
Specific instruments, tools			
30 mm Pteri dish	TPP	93040	
60 mm IVF Petri dish	Falcon	353653	
Ez-Grid Premium Cell Handling Pipettor	RI Life Sciences	8-72-288	
Ez-Tip	RI Life Sciences	8-72-4155/20	
Heating Table	SEMIC		Other brands can be used
Incubator	Panasonic	MCO-170AIC-PE	Other brands can be used
Sterile petri dish (10 cm)	NEST Biotechnology	704002	
Sterile syringe filters with 0.2 μ m	GOOGLAB SCIENTIFIC	GB-30-022PES	
Thermos	Quechua	5602589	Other brands can be used