

Vitrification of In Vitro Matured Oocytes Collected from Adult and Prepubertal Ovaries in Sheep

 Sara Succu¹, Elisa Serra¹, Sergio Gadau¹, Antonio Varcasia¹, Fiammetta Berlinguer¹
¹Department of Veterinary Medicine, University of Sassari

Corresponding Author

Fiammetta Berlinguer

berling@uniss.it

Citation

 Succu, S., Serra, E., Gadau, S., Varcasia, A., Berlinguer, F. Vitrification of In Vitro Matured Oocytes Collected from Adult and Prepubertal Ovaries in Sheep. *J. Vis. Exp.* (173), e62272, doi:10.3791/62272 (2021).

Date Published

July 10, 2021

DOI

10.3791/62272

URL

jove.com/video/62272

Materials

Name	Company	Catalog Number	Comments
2',7'-Dichlorofluorescein diacetate	Sigma-Aldrich	D-6883	
Albumin bovine fraction V, protease free	Sigma-Aldrich	A3059	
Bisbenzimidazole H 33342 trihydrochloride (Hoechst 33342)	Sigma-Aldrich	14533	
Calcium chloride (CaCl ₂ 2H ₂ O)	Sigma-Aldrich	C8106	
Citric acid	Sigma-Aldrich	C2404	
Confocal laser scanning microscope	Leica Microsystems GmbH, Wetzlar	TCS SP5 DMI 6000CS	
Cryotop Kitazato	Medical Biological Technologies		
Cysteamine	Sigma-Aldrich	M9768	
D- (-) Fructose	Sigma-Aldrich	F0127	
D(+)-Trehalose dehydrate	Sigma-Aldrich	T0167	
Dimethyl sulfoxide (DMSO)	Sigma-Aldrich	D2438	
Dulbecco Phosphate Buffered Saline	Sigma-Aldrich	D8537	
Egg yolk	Sigma-Aldrich	P3556	
Ethylene glycol (EG)	Sigma-Aldrich	324558	
FSH	Sigma-Aldrich	F4021	
Glutamic Acid	Sigma-Aldrich	G5638	
Glutaraldehyde	Sigma-Aldrich	G5882	
Glycerol	Sigma-Aldrich	G5516	
Glycine	Sigma-Aldrich	G8790	
Heparin	Sigma-Aldrich	H4149	
HEPES	Sigma-Aldrich	H4034	
Hypouridine	Sigma-Aldrich	H1384	
Inverted microscope	Diaphot, Nikon		
L-Alanine	Sigma-Aldrich	A3534	
L-Arginine	Sigma-Aldrich	A3784	
L-Asparagine	Sigma-Aldrich	A4284	

L-Aspartic Acid	Sigma-Aldrich	A4534	
L-Cysteine	Sigma-Aldrich	C7352	
L-Cystine	Sigma-Aldrich	C8786	
L-Glutamine	Sigma-Aldrich	G3126	
LH	Sigma-Aldrich	L6420	
L-Histidine	Sigma-Aldrich	H9511	
L-Isoleucine	Sigma-Aldrich	I7383	
L-Leucine	Sigma-Aldrich	L1512	
L-Lysine	Sigma-Aldrich	L1137	
L-Methionine	Sigma-Aldrich	M2893	
L-Ornithine	Sigma-Aldrich	O6503	
L-Phenylalanine	Sigma-Aldrich	P5030	
L-Proline	Sigma-Aldrich	P4655	
L-Serine	Sigma-Aldrich	S5511	
L-Tyrosine	Sigma-Aldrich	T1020	
L-Valine	Sigma-Aldrich	V6504	
Magnesium chloride heptahydrate (MgSO ₄ ·7H ₂ O)	Sigma-Aldrich	M2393	
Makler Counting Chamber	Sefi-Medical Instruments Ltd.Biosigma S.r.l.		
Medium 199	Sigma-Aldrich	M5017	
Mineral oil	Sigma-Aldrich	M8410	
MitoTracker Red CM-H ₂ XRos	ThermoFisher	M7512	
New born calf serum heat inactivated (FCS)	Sigma-Aldrich	N4762	
Penicillin G sodium salt	Sigma-Aldrich	P3032	
Phenol Red	Sigma-Aldrich	P3532	
Polyvinyl alcohol (87-90% hydrolyzed, average mol wt 30,000-70,000)	Sigma-Aldrich	P8136	
Potassium Chloride (KCl)	Sigma-Aldrich	P5405	
Potassium phosphate monobasic (KH ₂ PO ₄)	Sigma-Aldrich	P5655	
Propidium iodide	Sigma-Aldrich	P4170	
Sheep serum	Sigma-Aldrich	S2263	
Sodium azide	Sigma-Aldrich	S2202	
Sodium bicarbonate (NaHCO ₃)	Sigma-Aldrich	S5761	
Sodium chloride (NaCl)	Sigma-Aldrich	S9888	
Sodium dl-lactate solution syrup	Sigma-Aldrich	L4263	
Sodium pyruvate	Sigma-Aldrich	P2256	
Sperm Class Analyzer	Microptic S.L.	S.C.A. v 3.2.0	
Statistical software Minitab 18.1	2017 Minitab		
Stereo microscope	Olimpus	SZ61	
Streptomycin sulfate	Sigma-Aldrich	S9137	
Taurine	Sigma-Aldrich	T7146	
TRIS	Sigma-Aldrich	15,456-3	