

Materials List for:

Isolation of Human Atrial Myocytes for Simultaneous Measurements of Ca²⁺ Transients and Membrane Currents

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Materials

Name	Company	Catalog Number	Comments
			Transport solution
Albumin	Sigma-Aldrich	A3059	Storage solution: 1%
BDM	Sigma-Aldrich	31550	Transport solution: 30
DL-b-Hydroxy-butyric acid	Sigma-Aldrich	H6501	Storage solution: 10
Glucose	Sigma-Aldrich	G8270	Transport solution: 20 Ca ²⁺ -free solution: 20 Enzyme solution E1 and E2: 20 Storage solution: 10
L-Glutamic acid	Sigma-Aldrich	G1251	Storage solution: 70
KCl	Merck	1049360250	Transport solution: 10 Ca ²⁺ -free solution: 10 Enzyme solution E1 and E2: 10 Storage solution: 20
KH ₂ PO ₄	Sigma-Aldrich	P5655	Transport solution: 1.2 Ca ²⁺ -free solution: 1.2 Enzyme solution E1 and E2: 1.2 Storage solution: 10
MgSO ₄	Sigma-Aldrich	M9397	Transport solution: 5 Ca ²⁺ -free solution: 5 Enzyme solution E1 and E2: 5
MOPS	Sigma-Aldrich	M1254	Transport solution: 5 Ca ²⁺ -free solution: 5 Enzyme solution E1 and E2: 5
NaCl	Sigma-Aldrich	S3014	Transport solution: 100 Ca ²⁺ -free solution: 100 Enzyme solution E1 and E2: 100
Taurin	Sigma-Aldrich	86330	Transport solution: 50 Ca ²⁺ -free solution: 50 Enzyme solution E1 and E2: 50 Storage solution: 10
Collagenase I	 Worthington	4196	Enzyme solution E1 and E2: 286 U/ml
Protease XXIV	Sigma-Aldrich	P8038	Enzyme solution E1 and E2: 5 U/ml*
pH			Transport solution: 7.00 Ca ²⁺ -free solution: 7.00 Enzyme solution E1 and E2: 7.00 Storage solution: 7.40
adjusted with			Transport solution: 1 M NaOH Ca ²⁺ -free solution: 1 M NaOH

			Enzyme solution E1 and E2: 1 M NaOH Storage solution: 1 M KOH
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Concentrations in mM unless otherwise stated. BDM, 2,3-Butanedione monoxime. *Protease XXIV is included in Enzyme solution E1 only.

Table I. Solutions.

Nylon mesh (200 μ m)	VWR-Germany	510-9527	
Jacketed reaction beaker	VWR	KT317000-0050	

Table II. Specific equipment.

Dimethyl-sulphoxide	Sigma-Aldrich	D2650	
Fluo-3 AM (special packaging)	Invitrogen	F-1242	
Pluronic F-127	Invitrogen	P6867	

Table III. Substances for loading of myocytes with Fluo-3 AM.

4-aminopyridine*	Sigma-Aldrich	A78403	Bath solution: 5
BaCl ₂ *	Sigma-Aldrich	342920	Bath solution: 0.1
CaCl ₂ × 2H ₂ O	Sigma-Aldrich	C5080	Bath solution: 2
Glucose	Sigma-Aldrich	G8270	Bath solution: 10
HEPES	Sigma-Aldrich	H9136	Bath solution: 10
KCl	Merck	1049360250	Bath solution: 4
MgCl × 6H ₂ O	Sigma-Aldrich	M0250	Bath solution: 1
NaCl	Sigma-Aldrich	S3014	Bath solution: 140
Probenecid	Sigma-Aldrich	P8761	Bath solution: 2
pH			Bath solution: 7.35
adjusted with			Bath solution: 1 M HCl

Table IV. Bath solution for patch-clamp. *4-aminopyridine and BaCl were included for voltage-clamp experiments only.

DL-aspartat K ⁺ -salt	Sigma-Aldrich	A2025	Pipette solution: 92
EGTA	Sigma-Aldrich	E4378	Pipette solution: 0.02
GTP-Tris	Sigma-Aldrich	G9002	Pipette solution: 0.1
HEPES	Sigma-Aldrich	H9136	Pipette solution: 10
KCl	Merck	1049360250	Pipette solution: 48
MgATP	Sigma-Aldrich	A9187	Pipette solution: 1
Na ₂ ATP	Sigma-Aldrich	A2383	Pipette solution: 4
Fluo-3**	Invitrogen	F3715	Pipette solution: 0.1
pH			7.20
adjusted with			1 M KOH

Table V. Pipette solution for patch-clamp*. *On experimental days pipette solution is stored on ice until use. **Fluo-3 is added from a 1 mM stock solution on experimental days.

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