

Materials List for:

Preparation and Utilization of Freshly Isolated Human Detrusor Smooth Muscle Cells for Characterization of 9-Phenanthrol-Sensitive Cation Currents

John Malysz¹, Eric S. Rovner², Robert Wake³, Georgi V. Petkov^{1,3,4}

¹Department of Pharmaceutical Sciences, College of Pharmacy, University of Tennessee Health Science Center

²Department of Urology, Medical University of South Carolina

³Department of Urology, College of Medicine, University of Tennessee Health Science Center

⁴Department of Pharmacology, College of Medicine, University of Tennessee Health Science Center

Correspondence to: Georgi V. Petkov at gpetkov@uthsc.edu

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Materials

Name	Company	Catalog Number	Comments
5 ml polystyrene round-bottom tube	Falcon	352054	Tubes for DS containing enzymes used in digestion steps
9-Phenanthrol	Sigma-Aldrich	211281	TRPM4 channel inhibitor
Amphotericin-B	Fisher	BP928-250	Used for patch/cell perforation
Amphotericin-B	European Pharmacopoeia Reference Standards	5	Used for patch/cell perforation
Amphotericin-B	Sigma-Aldrich	A9528-100MG	Used for patch/cell perforation
Analog vortex mixer	VWR	58816-121	
Aspartic acid	Sigma-Aldrich	A9006	Intracellular pipette solution
Bovine serum albumin	Sigma-Aldrich	A7906	DS
CaCl ₂	Sigma-Aldrich	C1016	Extracellular solution and DS
Capillary Glass	Sutter	BF150-110-7.5	Capillary for preparation of pulled patch electrodes
Cesium hydroxide hydrate	Sigma-Aldrich	C8518	Intracellular pipette solution
Clampex ver. 10 software includes data acquisition (Clampex) and analysis (Clampfit) programs	Axon Instruments/ Molecular Devices	pCLAMP-10	Commercial software and part of patch-clamp rig setup
Collagenase type 2	Worthington Biochemical Corporation	LS004177	DS-C
CsCl	Sigma-Aldrich	203025	Extracellular and intracellular solutions
Dental wax	Miltex Dental Wax Technologies, Inc.	18058351	
Digital Thermometer with Probe	Fisher Scientific	15-077-32	Placed in tissue bath to monitor temperature
Dimethyl sulfoxide (DMSO)	Sigma-Aldrich	D2650	Solvent
DL-Dithiothreitol (DDT)	Sigma-Aldrich	D9779	Reducing agents used together with Papain
EGTA	Sigma-Aldrich	E3889	Ca ²⁺ chelator, used in intracellular pipette solution
Flaming/Brown micropipette puller	Sutter	P-97	Required to pull electrodes with very fine tips
Floating foam tube rack/holder	VWR Scientific	82017-634	Used for holding tubes with enzymes for temperature control
Glucose	Sigma	G8270	
Glutamic acid (Na salt)	Sigma-Aldrich	G1626	DS

HEPES	Sigma-Aldrich	H3375	pH Buffer
KCl	Fisher Scientific	BP366-1	Extracellular solution
Low Noise Data Acquisition System	Axon Instruments/ Molecular Devices	Digidata 1440A	Part of patch-clamp rig setup
Magnetic stirrer	VWR	01-442-684	
MgCl ₂ (hexahydrate)	Sigma-Aldrich	M2670	Extracellular and intracellular solutions
MicroForge	Narishige	MF-830	Used for fire-polishing electrodes
NaCl	Sigma-Aldrich	S7653	Extracellular and intracellular solutions
NaOH	Sigma-Aldrich	S8045	
Nifedipine	Sigma-Aldrich	N7634	L-type voltage-gated Ca ²⁺ channel blocker
Nikon inverted microscope, TS100 with T1-SM stage with 5x, 10x, 20x, and 40x objectives	Nikon	Discontinued	Part of Patch-clamp rig setup
Non-metallic syringe needle, MicroFil	WPI	MF-34G-5	Filling of intracellular pipette solution
Papain	Worthington Biochemical Corporation	LS003126	DS-P
Pasteur pipette	FisherBrand	13-678-20A	Tips are broken off and fire-polished and used for titration of enzymatically treated tissues to release single DSM cells from pieces
Patch-clamp amplifier	Axon Instruments/ Molecular Devices	Axon Axopatch 200B	Part of patch-clamp rig setup
PC computer	DELL	Custom configuration	Part of patch-clamp rig setup
pH Meter	Aspera Instruments	PH700	
Polyethylene tubing	Intramedic	427-436	Tubing for superfusion of extracellular bath connected to glass-bottom recording chamber
Tetraethylammonium chloride	Sigma-Aldrich	T2265	Ion channel blocker of Kv and BK channels added to the extracellular bath solution
Thermo Scientific Precision shaking water bath (model 2870)	Thermo Scientific	Discontinued	Water bath for temperature control of enzymatic digestion employed as an alternative to tissue chamber-circulating bath setup
Tissue bath, 100 mL	Radnoti	1583-101	Connected to a circulating bath and filled with water, tubes with DS and DSM pieces are placed in the setup to control the temperature of digestion steps
Vinyl tubing	ColePalmer	06405-3	Multiple uses including for connecting tissue bath to circulating water bath
Water circulator bath, Haake D1 L	Haake	Discontinued	Connected to tissue bath
Weighting scale	Mettler Toledo	XS64	
ZeissAxiovert 40C inverted microscope with 10x and 40x objectives	Carl-Zeiss	Discontinued	Part of patch-clamp rig setup