

Materials List for:

# Exploring Arterial Smooth Muscle Kv7 Potassium Channel Function using Patch Clamp Electrophysiology and Pressure Myography

Lioubov I. Brueggemann<sup>1</sup>, Bharath K. Mani<sup>1</sup>, Jennifer Haick<sup>1</sup>, Kenneth L. Byron<sup>1</sup>

<sup>1</sup>Department of Molecular Pharmacology & Therapeutics, Loyola University Chicago

Correspondence to: Kenneth L. Byron at [kbyron@lumc.edu](mailto:kbyron@lumc.edu)

URL: <https://www.jove.com/video/4263>

DOI: [doi:10.3791/4263](https://doi.org/10.3791/4263)

## Materials

Name	Company	Catalog Number	Comments
Sodium Chloride	Sigma	S5886	Dissecting Solution: 145 Bath solution for Electrophysiology*: 140 Internal solution for electrophysiology: 10 Isolation solution for myocytes*: 140 Bath solution for pressure myography: 145 Lumen solution for pressure myography: 145
Potassium chloride	Sigma	P5405	Dissecting Solution: 4.7 Bath solution for Electrophysiology*: 5.36 Internal solution for electrophysiology: 135 Isolation solution for myocytes*: 5.36 Bath solution for pressure myography: 4.7 Lumen solution for pressure myography: 4.7
Potassium EGTA	Sigma	E4378	Internal solution for electrophysiology: 0.05
HEPES	Sigma	H9136	Bath solution for Electrophysiology*: 10 Internal solution for electrophysiology: 10 Isolation solution for myocytes*: 10
Disodium hydrogen phosphate	Sigma	S5136	Isolation solution for myocytes*: 0.34
Potassium hydrogen phosphate	Sigma	P5655	Isolation solution for myocytes*: 0.44
Magnesium Chloride	Sigma	M2393	Bath solution for Electrophysiology*: 1.2 Internal solution for electrophysiology: 1 Isolation solution for myocytes*: 1.2
Calcium Chloride	Sigma	C7902	Bath solution for Electrophysiology*: 2 Isolation solution for myocytes*: 0.05
Sodium phosphate	Fisher Scientific	BP331-1	Dissecting Solution: 1.2 Bath solution for pressure myography: 1.2

			Lumen solution for pressure myography: 1.2
Magnesium Sulfate	Sigma	M2643	Dissecting Solution: 1.17 Bath solution for pressure myography: 1.17 Lumen solution for pressure myography: 1.17
MOPS	Fisher Scientific	BP308	Dissecting Solution: 3 Bath solution for pressure myography: 3 Lumen solution for pressure myography: 3
Pyruvic acid	Sigma	P4562	Dissecting Solution: 2 Bath solution for pressure myography: 2 Lumen solution for pressure myography: 2
EDTA dihydrate	Research Organics	9572E	Dissecting Solution: 0.02 Bath solution for pressure myography: 0.02 Lumen solution for pressure myography: 0.02
D-Glucose	Sigma	G7021	Dissecting Solution: 5 Bath solution for Electrophysiology*: 10 Internal solution for electrophysiology: 20 Isolation solution for myocytes*: 10 Bath solution for pressure myography: 5 Lumen solution for pressure myography: 5
Bovine serum albumin	Sigma	A3912	Dissecting Solution: 1% Lumen solution for pressure myography: 1%
pH			Dissecting Solution: 7.4 Bath solution for Electrophysiology*: 7.3 Internal solution for electrophysiology: 7.2 Isolation solution for myocytes*: 7.2 Bath solution for pressure myography: 7.4 Lumen solution for pressure myography: 7.4
Osmolarity			Dissecting Solution: 300 Bath solution for Electrophysiology*: 298 Internal solution for electrophysiology: 298 Isolation solution for myocytes*: 298 Bath solution for pressure myography: 300 Lumen solution for pressure myography: 300

\*11

**Table 1.** Components of solutions used in the experiment.