

Materials List for:

# Fine-tuning the Size and Minimizing the Noise of Solid-state Nanopores

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## Materials

Name	Company	Catalog Number	Comments
JEM-2100F TEM	JEOL		Drilling requires 200 kV accelerating voltage
Axon Axopatch 200B patch-clamp amplifier	Molecular Devices		Low-noise voltage and current amplifier
X-Series data acquisition card	National Instruments	PCI-6351	Interfacing with setup, apply of high electric fields
LabVIEW 2012 software	National Instruments		Apply voltages, record current, data analysis
Current amplifier	Keithley		Current amplification during high electric field pulses
30-nm thick silicon nitride TEM membrane windows	Norcada Inc.	NT005X	Substrate in which nanopores are created
10-nm thick silicon nitride TEM membrane windows	Norcada Inc.	NT005Z	Substrate in which nanopores are created
Silicone elastomer O-rings	Marian Chicago	HT6135	Punched for sealing the nanopore chip
Ag/AgCl electrodes	In Vivo Metric	E255	
Nitric acid	Fisher Scientific	52004P	Used for cleaning cells - handle with caution
Hydrogen peroxide	Fisher Scientific	H323	Used for piranha solution - handle with caution
Sulfuric acid	Fisher Scientific	A300	Used for piranha solution - handle with caution
Potassium chloride	Fisher Scientific	P335	
HEPES	Fisher Scientific	BP310	Buffering KCl solution
Primary Faraday cage			Shielding nanopore cell, electrodes
Secondary Faraday cage			Shielding headstage, electrode wires
Teflon cell			To hold nanopore chip and reservoirs
Hot plate	VWR		Heating piranha solution