Materials List for:

Combined Recording of Mechanically Stimulated Afferent Output and Nerve Terminal Labelling in Mouse Hair Follicle Lanceolate Endings

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Materials

Name	Company	Catalog Number	Comments
PDMS - Sylgard 184	Dow Corning		Flexible, inert, translucent solid silicone polymer.
No. 3 Dumont forceps	Fine Science Tools	11231-20	
Austerlitz Insect pins	Fine Science Tools	26002-10	Very fine pins to attach pinna preparation securely to the PDMS with minimal damage.
AC Differential Preamplifier	Digitimer	Neurolog NL104A	Amplifying the size of the incoming afferent electroneurogram. Differential recording minimises the extraneous electrical noise and baseline drift.
High/Low-pass Filter	Digitimer	Neurolog NL125	Signal conditioning, by reducing extraneous electrical noise to ensure best signal to noise ratio.
Spike Trigger	Digitimer	Neurolog NL201	Sets the event detector threshold and displays it on the oscilloscope. This shows the action potential detection efficacy.
Audio Amplifier & speakers	Digitimer	Neurolog NL120S	Useful audio monitoring for the presencec of electrical firing of the sensory endings while adjusting the mechanical stimulation preparation down the microscope
Oscilloscope	Digitimer	PM3380A	We use this old model but any standard oscilloscope will suffice.
Piezo electroceramic wafer	Morgan Electroceramics, Southampton UK	PZT507	Electrophysiology/computer interface
Piezo electroceramic powersupply	Home made		0-200 V DC output to drive the ceramic wafer displacement, with variable electronic control of output via recording/stimulation software and computer interface. We use Spike2 software and 1401micro computer interface.
Electrophysiology Software	Cambridge Electronic Design (CED)	Spike2 v7	Electrophysiology recording, stimulation and data analysis software
Laboratory interface	Cambridge Electronic Design (CED)	1401 micro	Electrophysiology interface, between the amplifier/filters and the computer. It inputs the electroneurogram and also drives the electroceramic movement.

FM1-43/Synaptogreen C4	Biotium/Cambridge Bioscience	BT70020	Fluorescent membrane probe that reversibly partitions into the outer leaflet of cell membranes. Used predominantly for monitoring vesicle membrane endo-/ exocytosis.
Advasep 7	Biotium/Cambridge Bioscience	BT70029	A sulfonated b-cyclodextrin derivative that chelates FM1-43 (& other styryl pyridinium dyes) out of the exposed membranes, leaving internalised dye to be seen more clearly by lowering the background labelling/fluorescence.
Retiga Exi Fast 1394	Qimaging		Monochrome, cooled CCD camera - basic model
Volocity 3D Image Analysis Software	Perkin Elmer	Volocity 6.3	Image capture and analysis software.