

Extracellular Multi-Unit Recording from the Olfactory Nerve of Teleosts

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Citation

 Hubbard, P., Velez, Z. Extracellular Multi-Unit Recording from the Olfactory Nerve of Teleosts. *J. Vis. Exp.* (), e60962, doi:10.3791/60962 (2020).

Date Published

October 6, 2020

DOI

10.3791/60962

URL

jove.com/video/60962

Materials

Name	Company	Catalog Number	Comments
AC pre-amplifier	Digitimer Ltd (Welwyn Garden City, UK)	NL104	Neurolog pre-amplifier specifically designed for this type of recording.
Digitdata	Molecular Devices, LLC. (San Jose, CA, USA)	1440A	Analogue-digital converter.
EMG Integrator	Digitimer Ltd (Welwyn Garden City, UK)	NL703	'Leaky' electrical integrator to integrate raw activity of the nerve.
Faraday cage	Made in-house		To reduce electrical noise.
Filter	Digitimer Ltd (Welwyn Garden City, UK)	NL125/6	Filter module for electrophysiological recording.
Gallamine triethiodide	Sigma-Aldrich (Portugal)	G8134	Neuromuscular blocker
L-glutamine	Sigma-Aldrich (Portugal)	G3126	Amino acid used as odorant
L-leucine	Sigma-Aldrich (Portugal)	L80000	Amino acid used as odorant
L-serine	Sigma-Aldrich (Portugal)	S4500	Amino acid used as odorant
Metalic base-plate	Any		Provides base for micro-manipulators.
Micro-hematocrit tubes	Any		To position water supply to the olfactory epithelium
Micro-manipulators	Narishige International Ltd (London, UK)	M-152	Position electrodes
MS222 (ethyl-3-aminobenzoate methanesulfonate salt)	Sigma-Aldrich (Portugal)	E10505	Anesthetic
pH probe	Hanna instruments (Póvoa de Varzim, Portugal)	HI12302	Probe to measure pH of water.
Refractometer	Hanna instruments (Póvoa de Varzim, Portugal)	HI96822	Refractometer to measure water salinity
Sodium chloride	Sigma-Aldrich (Portugal)	746398	For saline solution
Solenoid valves	The Lee Co. (Essex, CT, USA)	LFAA1201618H	For switching between background water and stimulus solutions (no longer available)
Stereo-microscope	Zeiss, Leica, Olympus	Any suitable model.	For dissection and placement of electrodes.
Titration	Hanna instruments (Póvoa de Varzim, Portugal)	HI84531	Titration to measure water alkalinity, pH and temperature.

Tungsten micro-electrodes 0.1 MΩ	World Precision Instruments (Hitchin, UK)	TM31A10	Extracellular electrodes.
Valve Driver	Made in-house		12 V DC source for operating solenoid valves.
Water pump (submersible)	Any		To supply anesthetic-containing water to the gills of the fish.