

Materials List for:

Longitudinal Two-Photon Imaging of Dorsal Hippocampal CA1 in Live Mice

Alessandro F. Ulivi¹, Tim P. Castello-Waldow¹, Ghabiba Weston^{1,2}, Long Yan³, Ryohei Yasuda³, Alon Chen^{1,4}, Alessio Attardo¹

¹Dept. of Stress Neurobiology and Neurogenetics, Max Planck Institute of Psychiatry

²Graduate School of Systemic Neurosciences, Ludwig Maximilians University

³Max Planck Florida Institute for Neuroscience

⁴Dept. of Neurobiology, Weizmann Institute of Science

Correspondence to: Alessio Attardo at alessio_attardo@psych.mpg.de

URL: <https://www.jove.com/video/59598>

DOI: [doi:10.3791/59598](https://doi.org/10.3791/59598)

Materials

Name	Company	Catalog Number	Comments
Professional drill/grinder IBS/E	Proxxon GmbH	28481	Precision drill
MICROMOT drill stand MB 200	Proxxon GmbH	28600	Movable ruler table
MICRO compound table KT 70	Proxxon GmbH	27100	Movable ruler table
Machine vice MS 4	Proxxon GmbH	28132	Movable ruler table
Stainless steel tube Ø 3,0 x 0,25 mm (Inner Ø 2,5 mm) L = 500 mm	Sawade	R00303	Stainless steel tube for the cannula metal ring
Microscope Cover glass (4 mm round)	Engelbrecht Medizin and Labortechnik		Glass coverslips for the cannula glass
Schlusselfeilensatz 6-tgl. Im Blechetui	Hoffmann Group	713750 160	Manual files
Präzisions-Nadelfeile Gesamtlänge 140 mm 4	Hoffmann Group	527230 4	Manual files
UV-Curing Optical Adhesives	Thorlabs	NOA81	UV-curing adhesive
UV Curing LED System, 365 nm	Thorlabs	CS2010	UV-curing LED driver unit
Stemi 305	Zeiss		Stereoscope
Presto II	NSK-Nakanishi Germany	Z307015	Dental drill
Diamantbohrer FG (5 St.), Zylinder flach, 837-014 fein	MF Dental	F837.014.FG	Files for the dental drill
Diamantbohrer FG (5 St.), Zylinder flach, 837-014 grob	MF Dental	G837.014.FG	Files for the dental drill
Graefe Forceps - Straight / Serrated	Fine Science Tools	11050-10	Forceps for the surgery
Burrs for Micro Drill	Fine Science Tools	19008-05	0.5 mm width burr for the micro-drill
Burrs for Micro Drill	Fine Science Tools	19008-09	0.9 mm width burr for the micro-drill
MicroMotor mit Handstück	DentaTec	MM11	Micro-drill for the craniotomy
Dumont #3 Forceps	Fine Science Tools	11231-30	Dumont forceps for the surgery
Fine Scissors - ToughCut	Fine Science Tools	14058-09	Scissors for the surgery
Trephine	MW Dental	229-020	Trephine drill - 3.0 mm diameter; for the micro-drill
Stainless Steel Self-Tapping Bone Screws	Fine Science Tools	19010-10	0.86 mm width bone screws
Stereotaxic apparatus	Kopf		Stereotaxic apparatus
3-D-Gelenkarm	Hoffmann Group	442114	Stereotaxic arm and plate holder
Aufnahme 2SM	Hoffmann Group	442100 2SM	Stereotaxic arm and plate holder

Hot Bead Sterilizers	Fine Science Tools	18000-45	Glass beads sterilizer
Isofluran CP, Flasche 250 ml	Henry Schein VET GmbH	798932	Liquid isoflurane for anesthesia
Harvard Apparatus Isoflurane Funnel-Fill Vaporizer	Harvard Apparatus GmbH	34-1040	Isoflurane vaporizer
Lab Active Scavenger	Gropper Medizintechnik	UV17014	Isoflurane scavenger system
Metacam 0,5% Injektionslg. (Hund / Katze), Flasche 20 ml	Henry Schein VET GmbH	798566	Meloxicam, anti-inflammatory
Vetalgin 500 mg/ml	MSD Tiergesundheit		Vetalgin, pain killer
CMA 450 Temperature Controller	Hugo Sachs Elektronik - Harvard Apparatus GmbH	8003770	Heating blanket
Bepanthen Augen- und Nasensalbe	Bayer AG		Ophthalmic ointment
KL 1500 LCD	Schott		Fiber optic light source
Xylocain Pumpspray	AstraZeneca GmbH		Lidocain, local anesthetic
Absorption Triangles - Unmounted	Fine Science Tools	18105-03	Absorption triangles for the surgery
Parkell C&B Metabond clear powder L	Hofmeister dental	013622	Quick adhesive cement
Parkell C&B Metabond Quick Base B	Hofmeister dental	013621	Quick adhesive cement
Parkell C&B Metabond Universal Catalyst C	Hofmeister dental	013620	Quick adhesive cement
Adjustable Precision Applicator Brushes	Parkell	S379	Precision applicators for the surgery
Blunt needles 0.9x23 mm	Dentina	0441324	Blunt needles
Blunt needles 0.5x42 mm	Dentina	0452155	Blunt needles
Blunt needles 0.3x23 mm	Dentina	0553532	Blunt needles
Kallocryl A/C	Speiko	1615	Acrylic liquid component
Kallocryl	Speiko	1609	Acrylic powder
Hydrofilm transparent roll	Hartmann		Adhesive film
Head plates	Custom made		30 mm x 10 mm size; 8 mm diameter hole, titanium
Head plate clamp	Custom made		Head plate holder
Pedestal post holders	Thorlabs	PH20E/M	Head plate holder
Stainless steel post	Thorlabs	TR30/M	Head plate holder
Stainless steel post	Thorlabs	TR75/M	Head plate holder
Stainless steel post	Thorlabs	TR150/M	Head plate holder
Post connector clamps	Custom made		Head plate holder
Aluminum Breadboard, 300 mm x 450 mm x 12.7 mm, M6 Taps	Thorlabs	MB3045/M	Microscope stage
7" x 4" Lab Jack	Thorlabs	L490/M	Microscope stage
Low profile face mask small mice	Emka Technologies	VetFlo-0801	Anesthesia facemask holder
RS4000 Tuned Damped Top Performance Optical Table	Newport		Floating table
S-2000A Top Performance Pneumatic Vibration Isolators with Automatic Re-Leveling	Newport		Floating table
Power Meter Model 1918-R	Newport		Power meter
X-Cite 120Q	Excelitas Technologies		Fluorescence lamp
Two-photon microscope	Bruker	Ultima IV	Two-photon microscopes
Two-photon microscope	Thorlabs	Bergamo	Two-photon microscopes

Plan N 4x/0.10 ∞/-/FN22	Olympus		Objectives
Plan N 10x/0.25 ∞/-/FN22	Olympus		Objectives
LMPlan FLN 20x/0.40 ∞/-/FN26.5	Olympus		Objectives
XLPlan N 25x/1.00 SVMP ∞/0-0.23/FN18	Olympus		Objectives
Ultrafast tunable laser for 2P excitation	Spectraphysics	Mai Tai Deep See	Excitaiton lasers
Ultrafast tunable laser for 2P excitation	Spectraphysics	InSight DS+ Dual beam	Excitaiton lasers
Ultrafast tunable laser for 3P excitation	Coherent	Monaco	Excitaiton lasers