

Materials List for

The DREAM Implant: A Lightweight, Modular, and Cost-Effective Implant System for Chronic Electrophysiology in Head-fixed and Freely Behaving Mice

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Materials

Name	Company	Catalog Number	Comments
0.05" Solder Tail Socket	Mill-Max	853-93-100-10-001000	
1,1'-dioctadecyl-3,3,3',3'- Reagent tetramethylindocarbocyanine perchlorate ('Dil'; DiIC18(3))	ThermoFisher	D282	Lipophilic dye used for easier histological verification of the probe location
Adhesive Putty (Blu-Tack)	Bostik	308590110	Variations (e.g. by Pritt) should be available in your stationary store
Agar	Sigma Aldrich	A1296	Make with saline for conductivity.
Amplifier (Miniamp-64)	Cambridge Neurotech		Miniature and implantable amplifier and digitiser. Alternative Implantable digitiser, or implantable Omnetics connector use possible.
Analgesic Cream (EMLA Cream)	Aspen	39699/0088	Analgesic cream used for operative pain containing prilocaine, lidocaine.
Angled Spacer	3DNeuro		Angled spacer for non-perpendicular drive mounting.. Open source, also available at https://github.com/zero-noise-lab/dream-implant/
Blue light curing LED	B.A. International	818223	Curing light for primer polymerisation. 420-480 nm wavelength
Bone wax	SMI	Z046	Wax to protect craniotomy and probe post surgery.
Copper mesh	Dexmet	3CU6-050FA	Copper mesh used to electrically and physically shield probe and craniotomy.
Cyanoacrylate glue (Loctite)	Loctite	1363589	Cyanoacrylate gel glue
Dental Cement (SuperBond C&B)	Sun Medical	K058E	Dental cement (SuperBond)

Depilation Cream (Veet)	Veet	310000091434	Hair removal cream for removal of hair around surgical site.
Faraday crown	3DNeuro		3D printed implantable protective cage. Open source, also available at https://github.com/zero-noise-lab/dream-implant/
Faraday ring	3DNeuro		3D printed implantable protective ring for faraday cage. Open source, also available at https://github.com/zero-noise-lab/dream-implant/
Haemostatic Sponge	SMI	ZHG101010	Absorbable gelatin haemostatic sponge
Heat Shrink Tubing	HellermannTyton	TA32-9/3 BK	Heat Shrink tubing for making soft tipped forceps
Iodine	Braunol	9322507	Aqueous povidone-iodine solution.
Microdrive (R2Drive)	3DNeuro		Recoverable Metal micro drive with moveable shuttle. Open source, also available at https://buzsakilab.github.io/3d_print_designs/
Mineral Oil	Sigma-Aldrich	M5310-100ML	Oil used as solvent to create craniotomy protection gel.
Non-Shedding Wipes (Kimtech)	Kimtech	7552	Non-shedding wipes
Primer	Bisco	B-7202P	Universal skull adhesive preventing moisture from deteriorating the cement and providing a solid base to build up cement onto.
R2Drive holder	3DNeuro		Stereotactic attachment for mounting R2Drive. Open source, also available at https://buzsakilab.github.io/3d_print_designs/
Self-adherent wrap	3M	VB050	Protective wrap for implant post surgery
Silicon probe (H2)	Cambridge Neurotech		Chronically implantable linear silicon probe with 32 channels. Alternative Probe use possible.
Silicone Elastomer (Duragel)	Cambridge Neurotech		Silicone Elastomer
Silicone Plaster (Kwikcast)	WPI	KWIK-CAST	
Silver conductive epoxy	MG Chemicals	8331D-14G	Silver epoxy
Size 5 Dumont forceps	FSTools	11251-10	Small forceps for lifting bone flap.
Stainless steel wire, Teflon coated	Science Products GmbH	SS-3T	Ground wire
Stereotax (RWD)	RWD	68803	Stereotax for surgical procedures on mice.
Tergazyme	Alconox	1304	A possible enzymatic cleaner to clean probe
Two Part Fast setting Epoxy Resin	Gorilla	EP3	Epoxy for permanent bonding of DREAM implant parts.
Vannas Spring Scissors Round Handle	FSTools	15403-08	0.075mm straight tipped spring rebound veterinary scissors.
Veterinary Cyanoacrylate glue (Vetbond)	3M	70-0068-5256-3	Veterinary cyanoacrylate glue