

Materials List for:

Implantation and Recording of Wireless Electroretinogram and Visual Evoked Potential in Conscious Rats

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Materials

Name	Company	Catalog Number	Comments
Bioamplifier	ADInstruments	ML 135	Amplifies ERG and VEP signals
Carboxymethylcellulose sodium 1.0%	Allergan	CAS 0009000-11-7	Maintain corneal hydration during surgery
Carprofen 0.5%	Pfizer Animal Health Group	CAS 53716-49-7	Post-surgery analgesia, given with injectable saline for fluid replenishment
Chlorhexadine 0.5%	Orion Laboratories	27411, 80085	Disinfection of surgical instrument
Cyanoacrylate gel activator	RS components	473-439	Quickly dries cyanoacrylate gel
Cyanocrylate gel	RS components	473-423	Fix stainless screws to skull
Dental burr	Storz Instruments, Bausch and Lomb	E0824A	Miniature drill head of ~ 0.7 mm diameter for making a small hole in the skull over each hemisphere to implant VEP screws
Drill	Bosch	Dremel 300 series	Automatic drill for trepanning
Enrofloxin	Troy Laboratories		Prophylactic antibiotic post surgery
Ganzfeld integrating sphere	Photometric Solutions International		Custom designed light stimulator: 36 mm diameter, 13 cm aperture size
Gauze swabs	Multigate Medical Products Pty Ltd	57-100B	Dries surgical incision and exposed skull surface during surgery
Isoflurane 99.9%	Abbott Australasia Pty Ltd	CAS 26675-46-7	Proprietary Name: Isoflo(TM) Inhalation anaaesthetic. Pharmaceutical-grade inhalation anesthetic mixed with oxygen gas for VEP electrode implant surgery
Kenacomb ointment	Aspen Pharma Pty Ltd		To reduce skin irritation and itching after surgery
Luxeon LEDs	Phillips Lighting Co.		For light stimulation, twenty 5 W and one 1 W LEDs, controlled by Scope software
Needle (macrosurgery)	World Precision Instruments	501959	for suturing abdominal and head surgery, used with 3 - 0 suture, eye needle, cutting edge 5/16 circle Size 1, 15 mm
Needle holder (macrosurgery)	World Precision Instruments	500224	To hold needle during abdominal and head surgery
Needle holder (microsurgery)	World Precision Instruments	555419NT	To hold needle during ocular surgery
Optiva catheter	Smiths Medical International LTD	16 or 21 G	Guide corneal active electrodes from skull to conjunctiva

Povidone iodine 10%	Sanofi-Aventis	CAS 25655-41-8	Proprietary name: Betadine, Antiseptic to prepare the shaved skin for surgery 10%, 500 ml
Powerlab data acquisition system	ADInstruments	ML 785	Acquire signal from telemetry transmitter, paired to telemetry data converter
Proxymetacaine 0.5%	Alcon Laboratories	CAS 5875-06-9	Topical ocular analgesia
Restrainer	cutom made		Front of the restrainer is tapered to minimize head movement, length can be adjusted to accommodate different rat length, overall diameter is 60 mm.
Scapel blade	R.G. Medical Supplies	SNSM0206	For surgical incision
Scissors (macrosurgery)	World Precision Instruments	501225	for cutting tissue on the abodmen and forehead
Scissors (microsurgery)	World Precision Instruments	501232	To dissect the conjunctiva for electrode attachment
Scope Software	ADInstruments	version 3.7.6	Simultaneously triggers the stimulus via the ADI Powerlab system and collects data
Shaver	Oster	Golden A5	Shave fur from surgical areas
Stainless streel screws	MicroFasteners	L001.003CS304	0.7 mm shaft diameter, 3 mm in length
Stereotaxic frame	David Kopf	Model 900	A small animal stereotaxic instrument for locating the implantation landmarks on the skull
Surgical drape	Vital Medical Supplies	GM29-612EE	Ensure sterile enviornment during surgery
Suture (macrosurgery)	Ninbo medical needles	3-0	for suturing abdominal and head surgery, sterile silk braided, 60 cm
Suture needle (microsurgery)	Ninbo medical needles	8-0 or 9-0	for ocular surgery including, suturing electrode to sclera and closing conjunctival wound, nylon suture, 3/8 circle 1 × 5, 30 cm
Telemetry data converter	DataSciences International	R08	allows telemetry signal to interface with data collection software
Telemetry Data Exchange Matrix	DataSciences International		Gathers data from transmitters, pair with receiver
Telemetry data receiver	DataSciences International	RPC-1	Receives telemetry data from transmitter
Telemetry transmitter	DataSciences International	F50-EEE	3 channel telemetry transmitter
Tropicamide 0.5%	Alcon Laboratories		Iris dilation
Tweezers (macrosurgery)	World Precision Instruments	500092	Manipulate tissues during abdominal and head surgery
Tweezers (microsurgery)	World Precision Instruments	500342	Manipulate tissues during ocular surgery