

Materials List for

# Integrated Photoacoustic, Ultrasound, and Angiographic Tomography (PAUSAT) for NonInvasive Whole-Brain Imaging of Ischemic Stroke

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## Materials

Name	Company	Catalog Number	Comments
20 GA catheter	BD Insyte Autoguard Winged	381534	For mouse intubation
2,3,5-Triphenyltetrazolium chloride	Sigma	T8877	Necessary for TTC-staining brain for validation
532nm Laser	Quantel	Q-smart 850	Laser used to pump the OPO for PAT
Automatic Ventilator Rovent Jr.	Kent Scientific	RV-JR	To keep mice under anesthesia during surgical procedure
Black braided silk 4-0 USP	Surgical Specialties	SP116	Used for sutures on the neck for pMCAO surgery
Bupivacaine	Hospira	0409-1159-18	Used prior to closing wounds during surgical procedure
C57BL/6 Mice	Jackson Lab	#000664	Mice used for studying ischemic stroke (2-6 month old male/female)
Clear suture	Ethicon	8606	Used for closing wound (PT stroke and pMCAO). A clear suture won't interfere with PAT
Cold Light LED	Schott	KL 1600	Needed to create PT stroke
Disposable Razor Blade	Accutec Blades	74-0002	For sectioning mouse brain
Electric drill	JSDA	JD-700	Used to expose MCA during pMCAO procedure
Electrocauterization tool	Wet-Field	Wet-Field Bipolar-RG	Stops blood flow after drilling during pMCAO procedure
Hair removal gel	Veet	8282651	Used to remove hair from mouse prior to imaging
High Temperature Cautery Loop Tip	BOVIE Medical Corporation	REF AA03	Used to avoid bleeding when separating the temporal muscle from the skull
IR Detector Card	Thorlabs	VRC5	Used to ensure light path is aligned
Laser Power Meter	Ophir	StarBright, P/N 7Z01580	Can be used to calibrate the laser energy prior to imaging

Laser Speckle Imaging System	RWD Life Science Co.	RFLSI-III	Can be used to validate stroke surgery success
Lubricant Eye Ointment	Soothe	AB31336	Can be used to avoid drying of the eyes
Manually adjustable stage	Thorlabs	L490	Used with custom ramp for multiple focal depth AA imaging
Modified Vega Imaging System	Perkin Elmer	LLA00061	System containing both B-mode/AA and PAT transducers
Optical Parametric Oscillator	Quantel	versaScan-L532	Allows for tuning of excitation wavelength in a large range
Programmable Ultrasound System	Verasonics	Vantage 256	Used for PAT part of system
Rose Bengal	Sigma	330000	Necessary to induce PT stroke
Suture	LOOK	SP116	Used for permanent ligation of CCA
Temperature Contoller	Physitemp	TCAT-2	Used to maintain stable body temperature of mice during procedures
VesselVue Microbubbles	Perkin Elmer	P-4007001	Used for acoustic angiography (2.43 × 10 <sup>9</sup> microbubbles/mL)