

Materials List for:

Light-sheet Fluorescence Microscopy for the Study of the Murine Heart

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Materials

Name	Company	Catalog Number	Comments
CW Laser	Laserglow Technologies	LMM-GBV1-PF3-00300-05	Excitation of fluorophores
Neutral density filter	Thorlabs	NDC-50C-4M	Controls amount of light entering system
Achromatic beam expander	Thorlabs	GBE05-A	Expands the beam of light
Mechanical slit	Thorlabs	VA100C	Controls width of beam
Beam splitter	Thorlabs	BS013	Forms dual-illumination beam
Stereo microscope with 1X objective lense	Olympus	MVX10	Used for observation of sample
ORCA-Flash4.0 LT sCMOS camera	Hamamatsu Photonics	C11440-42U	Used to capture Images
Acrylonitrile butadiene styrene (ABS)	Stratasys	uPrint	Material used to 3-D print a sample holder
Fluorescent polystyrene beads	Spherotech Inc	PP-05-10	Used for imaging system calibration
Borosilicate glass tubing	Corning	Pyrex 7740	Tubing for sample embedding
Glycerol	Fisher Scientific	BP229-4	Fill for sample chamber
Phosphate-buffered saline	Fisher Scientific	BP39920	Rinse solution for mouse hearts
Paraformaldehyde	Electron microscopy sciences	RT-15700	First incubation solution
Acrylamide	Wako Chemicals	AAL-107	Mixed with 2,2'-Azobis dihydrochloride for second incubation solution for mouse hearts
2,2'-Azobis dihydrochloride	Wako Chemicals	VA-044	Mixed with Acrylamide for second incubation solution for mouse hearts
Sodium dodecyl sulfate	Sigma Aldrich	71725	Mixed with Boric acid for third incubation solution for mouse hearts
Boric acid	Fischer Scientific	A74-1	Mixed with Sodium dodecyl sulfate for third incubation solution for mouse hearts
Sigma D2158	Sigma Aldrich	D2158	Mixed with PB, Tween-20, and Sodium azide as a refractive index matching solution
Tween-20	Sigma Aldrich	11332465001	Mixed with Sigma D2158, PB, and Sodium azide as a refractive index matching solution
Sodium azide	Sigma Aldrich	S2002	Mixed with Sigma D2158, PB, and Tween-20 as a refractive index matching solution

Adeno-associated virus vector 9 with a cardiac-specific Troponin T promoter tagged with GFP	Vector Biolabs	VB2045	Expresses GFP when bound to ROMK
DC Servo Motor Actuator	Thorlabs	Z825B	Used for movement of sample in axial direction within light sheet
K-Cube Brushed DC Servo Motor Controller	Thorlabs	KDC101	Connects to motor actuator and controls movement of the actuator
Amira	FEI Software	N/A	Visualization software for producing 2-D and 3-D images