

Nitroreductase/Metronidazole-Mediated Ablation and a MATLAB Platform (RpEGEN) for Studying Regeneration of the Zebrafish Retinal Pigment Epithelium

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Materials

Name	Company	Catalog Number	Comments
Lab Material/Equipment			
2-(4-Amidinophenyl)-6-indolecarbamidine dihydrochloride (DAPI)	Millipore Sigma	D9542	
6-well plates	Fisher Scientific	07-200-83	
Conical Polypropylene Centrifuge Tubes	Fisher Scientific	05-539-13	Catalog number is for 50 mL tubes
Diamond tip scribing pen	Fisher Scientific	50-254-51	Manufactured by Electron Microscopy Sciences, items similar to this part number are adequate
Dimethyl sulfoxide (DMSO) ≥99.7 %	Fisher Scientific	BP231	Check institutional chemical waste disposal requirements
Embryo incubator (large)	Fisher Scientific	3720A	
Embryo incubator (mini/tabletop)	Labnet	I5110A	
Fluorescence stereo microscope	Zeiss	Axio Zoom.V16	Or similar, with 488 nm excitation laser/filter
Glass Pasteur pipette	Fisher Scientific	13-678-4	Manufactured by Corning, non-sterile
InSolution Wnt Antagonist I, IWR-1-endo	Millipore Sigma	5.04462	Manufactured by Calbiochem; 25 mM in DMSO; check institutional chemical waste disposal requirements
Methylene blue (powder)	Fisher Scientific	BP117-100	Also available as a premade aqueous solution
Metronidazole (MTZ)	Millipore Sigma	M3761	Check institutional chemical waste disposal requirements
N-phenylthiourea (PTU)	Millipore Sigma	P7629	Check institutional chemical waste disposal requirements
Paraformaldehyde (16 % w/v) methanol free	Fisher Scientific	AA433689M	Chemical waste, proper disposal required
Petri dishes	Fisher Scientific	FB0875712	10 cm diameter

Phosphate buffered saline (powder packets)	Millipore Sigma	P3813	Used to make 10 X PBS stock
Pronase	Millipore Sigma	PRON-RO	
Shaking incubator	Benchmark	H2010	Used for incubating MTZ for 1 hour at 37 degrees Celcius
Stereo microscope	Leica	S9i	Or similar, with transmitted light illumination
Student Dumont #5 forceps	Fine Science Tools	91150-20	Fine-tipped forceps for manual dechoriation
Tabletop rotator/shaker	Scilogex	SK-D1807-E	
Transfer pipette	Millipore Sigma	Z135003	3.2 mL bulb draw, non-sterile
Tricaine methanesulfonate (MS-222)	Pentair	TRS1, TRS2, TRS5	Also available from Fisher Scientific (NC0342409)
VECTASHIELD Antifade Mounting Medium with DAPI	Vector Laboratories	H-1200	
Software Material			
FIJI (Fiji is Just ImageJ)	FIJI (Fiji is Just ImageJ)	https://imagej.net/software/fiji/	Version: 2.0.0-rc-69/1.52p; Build: 269a0ad53f; Plugin needed: Bio-Formats
GRAMM examples and how-tos	MathWorks	https://www.mathworks.com/matlabcentral/fileexchange/54465-gramm-complete-data-visualization-toolbox-ggplot2-r-like .	
MATLAB	MathWorks	https://www.mathworks.com/products/get-matlab.html	Toolboxes needed to run RpEGEN: Image Processing Toolbox, Curve Fitting Toolbox, Statistics and Machine Learning Toolbox
MATLAB support	MathWorks	https://www.mathworks.com/support.html	