

Materials List for:

Visualization of Cellular Electrical Activity in Zebrafish Early Embryos and Tumors

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Materials

Name	Company	Catalog Number	Comments
14mL cell culture tubes	VWR	60818-725	E.Coli culture
Agarose electrophoresis tank	Thermo Scientific	Owl B2	DNA eletrophoresis
Agarose RA	Amresco	N605-500G	For making the injection gels
Attb1-ASAP1-F primer	IDT DNA	GGGGACAAGTTTGTACAAAAA GCAGGCTTCACCATGGAGACGA CTGTGAGGTATGAACA	ASAP1 coding region amplification for subcloning
Attb2-ASAP1-R primer	IDT DNA	GGGGACCACTTTGTACAAGAAA GCTGGGTCTTAGGTTACCACTTC AAGTTGTTTCTTCTGTGAAGCCA	ASAP1 coding region amplification for subcloning
Bright field dissection scope	Nikon	SMZ 745	Dechoriation, microinjection, mounting
Color camera	Zeiss	AxioCam MRc	Fish embryo image recording
Concave slide	VWR	48336-001	For holding fish embryos during imaging process
Disposable transfer pipette 3.4 ml	Thermo Scientific	13-711-9AM	Fish embryos and water transfer
Endonuclease enzyme, Not I	NEB	R0189L	For linearizing plasmid DNA
Epifluorescent compound scope	Zeiss	Axio Imager.A2	Fish embryo imaging
Epifluorescent stereo dissection scope	Zeiss	Stereo Discovery.V12	Fish embryo imaging
Fluorescent light source	Lumen dynamics	X-cite serie 120	Light source for fluorescence microscopes
Forceps #5	WPI	500342	Dechoriation and needle breaking
Gateway BP Clonase II Enzyme mix	Thermo Scientific	11789020	Gateway BP recombination cloning
Gateway LR Clonase II Plus enzyme	Thermo Scientific	12538120	Gateway LR recombination cloning
Gel DNA Recovery Kit	Zymo Research	D4002	DNA gel purification
Loading tip	Eppendorf	930001007	For loading injection solution into capillary needles
Methylcellulose (1600cPs)	Alfa Aesar	43146	Fish embryo mounting
Methylene blue	Sigma-Aldrich	M9140	Suppresses fungal outbreaks in Petri dishes
Microinjection mold	Adaptive Science Tools	TU-1	To prepare agarose mold tray for holding fish embryos during injection
Microinjector	WPI	Pneumatic Picopump PV820	Microinjection injector
Micro-manipulator	WPI	Microinjector MM3301R	Microinjection operation

Micropipette puller	Sutter instrument	P-1000	For preparing capillary needle
Mineral oil	Amresco	J217-500ml	For calibrating injection volume
mMESSAGE mMACHINE SP6 Transcription Kit	Thermo Scientific	AM1340	mRNA in vitro transcription
Monocolor camera	Zeiss	AxioCam MRm	Fish embryo image recording
Plasmid Miniprep Kit	Zymo Research	D4020	Prepare small amount of plasmid DNA
Plastic Petri dishes	VWR	25384-088	For holding fish or fish embryos during imaging process
RNA Clean & Concentrator-5	Zymo Research	R1015	mRNA cleaning after in vitro transcription
Spectrophotometer	Thermo Scientific	NanoDrop 2000	For measuring DNA and RNA concentrations
Stage Micrometer	Am Scope	MR100	Microinjection volume calibration
Thermocycler	Bio-Rad	T100	DNA amplification for gene cloning
Thin wall glass capillaries	WPI	TW100F-4	Raw glass for making capillary needle
Tol2-exL1 primer	IDT DNA	GCACAACACCAGAAATGCCCTC	Tol2 excise assay
Tol2-exR primer	IDT DNA	ACCCTCACTAAAGGGAACAAAAG	Tol2 excise assay
TOP10 Chemically Competent E. coli	Thermo Scientific	C404006	Used for transformation during gene cloning
Tricaine mesylate	Sigma-Aldrich	A5040	For anesthetizing fish or fish embryos
UV trans-illuminator 302nm	UVP	M-20V	DNA visualization
Water bath	Thermo Scientific	2853	For transformation process of gene cloning