

Materials List for

A 3-D Tail Explant Culture to Study Vertebrate Segmentation in Zebrafish

M. Fethullah Simsek^{1,3}, Ertugrul M. Özbudak^{1,2,3}

¹Division of Developmental Biology, Cincinnati Children's Hospital Medical Center ²Department of Pediatrics, University of Cincinnati College of Medicine

³Department of Genetics, Albert Einstein College of Medicine

Corresponding Author

M. Fethullah Simsek

muhammed.simsek@cchmc.org

Citation

Simsek, M.F., Özbudak, E.M. A 3-D Tail Explant Culture to Study Vertebrate Segmentation in Zebrafish. *J. Vis. Exp.* (172), e61981, doi:10.3791/61981 (2021).

Date Published

June 30, 2021

DOI

10.3791/61981

URL

jove.com/video/61981

Materials

Name	Company	Catalog Number	Comments
1 mL Sub-Q Syringe with PrecisionGlide Needle	Becton, Dickinson and Co.	REF 309597	for dechorionating embryos and manipulations
200 Proof Ethanol, Anhydrous	Decon Labs	2701	for immunostaining
Antibiotic Antimycotic Solution (100×)	Sigma-Aldrich	A5955	for tissue dissection media
Calcium Chloride Anhydrous, Powder	Sigma-Aldrich	499609	for tissue dissection media
Dimethylsulfoxide	Sigma-Aldrich	D5879	for immunostaining
Disposable Scalpel, #10 Stainless Steel	Integra-Miltex	MIL4-411	for preparing tape slide wells
Ethyl 3-aminobenzoate methanesulfonate salt (Tricaine)	Sigma-Aldrich	886-86-2	(optional) for anesthetizing tissues older than 20 somites stage
Fetal Bovine Serum (FBS)	ThermoFisher	A3160601	additional for tissue culture media
Goat anti-Mouse IgG2b, Alexa Fluor 594	Invitrogen	Cat#A-21145; RRID: AB_2535781	secondary antibody for immunostaining
L-15 Medium with L-Glutamine w/o Phenol Red	GIBCO	21083-027	for tissue dissection media
Methanol	Sigma-Aldrich	179337	for immunostaining
Microsurgical Corneal Knife 2.85 mm Angled Tip Double Bevel Blade	Surgical Specialties	72-2863	for tissue dissection
Mouse monoclonal anti-ppERK	Sigma-Aldrich	Cat#M8159; RRID:AB_477245	for ppERK immunostaining
NucRed Live 647 ReadyProbes Reagent	Invitrogen	R37106	(optional) for live staining of cell nuclei
Paraformaldehyde Powder, 95%	Sigma-Aldrich	158127	for fixation of samples for immunostaining
Rat Tail Collagen Coating Solution	Sigma-Aldrich	122-20	(optional) for chemically activating slide chambers
Stage Top Incubator	Tokai Hit	tokai-hit-stxg	(optional) for temperature control during live imaging
Transparent Tape 3/4"	Scotch	S-9782	for preparing tape slide wells
Triton X-100	Sigma-Aldrich	X100	for immunostaining
Tween 20	Sigma-Aldrich	P1379	for immunostaining

Zebrafish: Tg(actb2:2xMCP-NLS-EGFP)	Campbell et al., 2015	ZFIN: ZDB-TGCONSTRCT-150624-4	transgenic fish with nuclear localized EGFP
Zebrafish: Tg(Ola.Actb:Hsa.HRAS-EGFP)	Cooper et al., 2005	ZFIN: ZDB-TGCONSTRCT-070117-75	transgenic fish with cell membrane localized EGFP