

Figure S1. Mitotracker staining reveals enhancer trap line expressed in ionocyte population. Mitotracker staining (magenta) in *Tg(krt4:GFP)* (green) zebrafish. Co-expression of mitotracker (green) in the *zc1016B* enhancer trap line (magenta).



Figure S2. Characterization of *Tg(p63:EGFP)* transgenic zebrafish. Max projection confocal images of *Tg(p63:EGFP)* transgenic zebrafish at 24hpf and 48hpf.

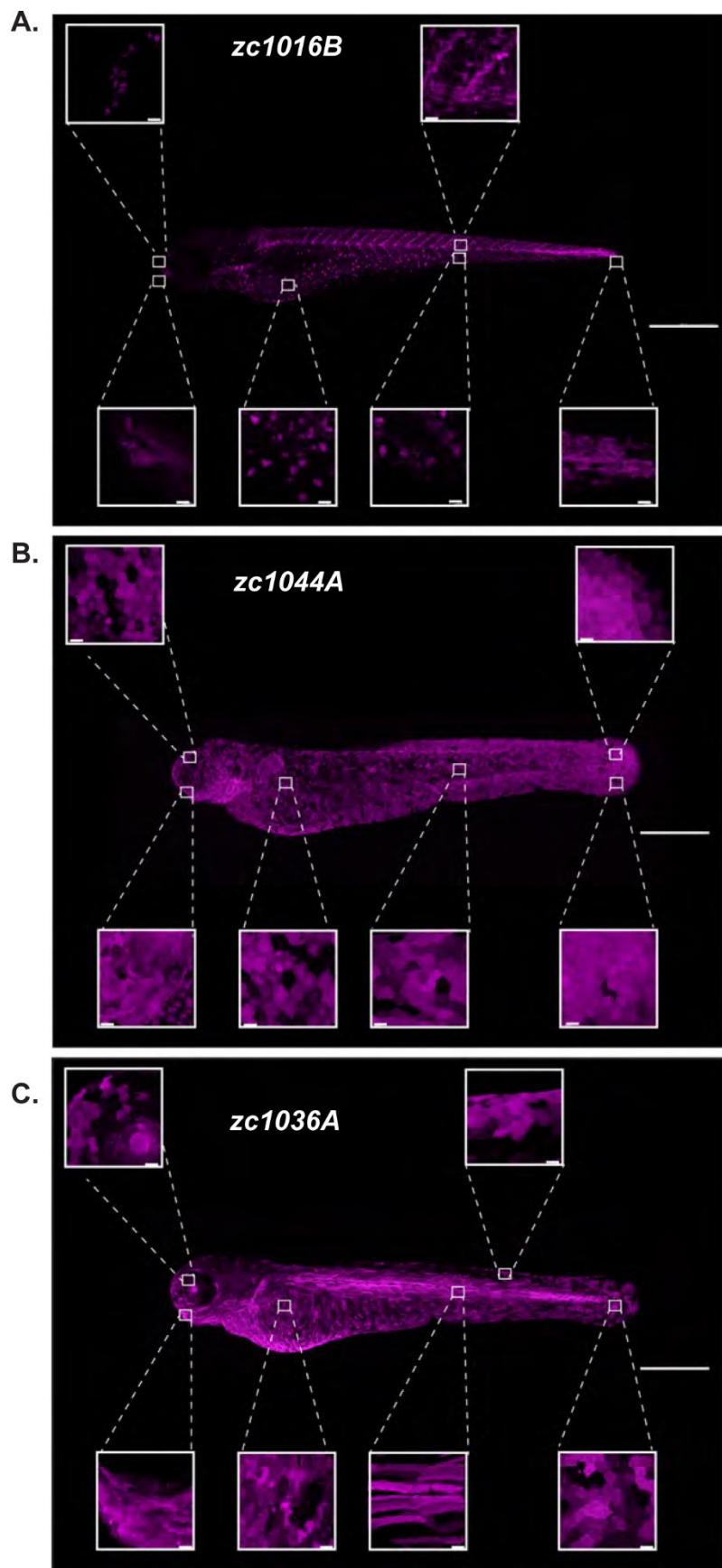


Figure S3. High-resolution atlas of the identified Gal4 enhancer trap lines. Max projection confocal images demonstrating expression in the whole animal for the GET-ionocyte (A), GET-Periderm (B) and GET-Basal (C) lines. High magnification images of different regions along the animal for each Gal4 enhancer trap line are also shown. A list of cell types each line is expressed in is presented in Table S1. Depending on the experiment and approach, expression in other cell types may complicate perturbation studies. Scale bars, 50µm for the whole animal images, 20µm for the high magnification images.

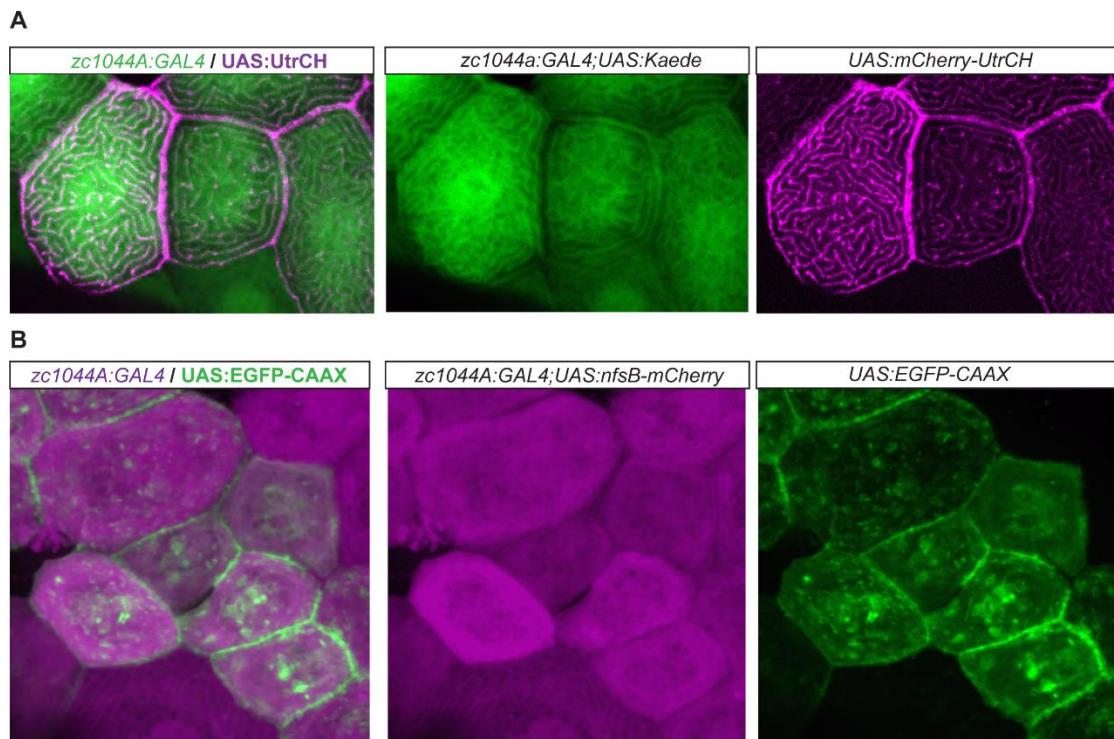


Figure S4. Epithelial enhancer trap line driving expression of UAS cytoskeletal fluorescent reporter lines. Expression of the UAS cytoskeletal fluorescent reporters by the Periderm-GET line reveals localization of F-actin (A) and membrane bound fluorescent expression (B), respectively, within the developing periderm (48hpf). (A). Expression of UAS:mCherry-UtrCH (magenta) in the *Et(Gal4-VP16)zc1044A; Tg(UAS-E1b:Kaede)s1999t* (green) line; and (B) UAS:EGFP-CAAX (green) in *Et(Gal4-VP16)zc1044A;Tg(UAS-E1b:nfsB-mCherry)* (magenta) line.

Table S1. Gal4 Enhancer Trap Lines

Line	Epidermal Cell Type Expression	Other
1016B	Ionocytes	Notochord
1021A	Pectoral Fin, Fibroblasts	Otic Vesicle, Hindbrain, Vasculature
1036A	Basal Cells	Optic Cup, Olfactory Placode/Bulb, Muscle, Notochord
1038A	Median Fin Epidermis	Glia, Olfactory Placode/Bulb
1044A	Periderm Cells	Glia, Midbrain, Retina, Hindbrain, Hypothalamus, Spinal Neurons

Table S2. Plasmids Available For Studying Epithelial Cell Biology in Zebrafish

Enhancers

Name	Enhancer Element	Cell Type Expression
p5E-krt4	<i>krt4</i>	Periderm Cells
p5E-p63	<i>p63</i>	Basal Cells
p5E-p63cfos	<i>p63+cfos</i> minimal promoter	Basal Cells

UAS Effectors

Name	Subcellular Distribution
UAS:mCherry-UtrCh	F-actin Filaments
UAS:Lifeact-EGFP	F-actin Filaments
UAS:EGFP-CAAX	Plasma membrane
UAS:nCas9n-2A-EGFP-CAAX	Nucleus (Cas9)/Plasma membrane (EGFP)