

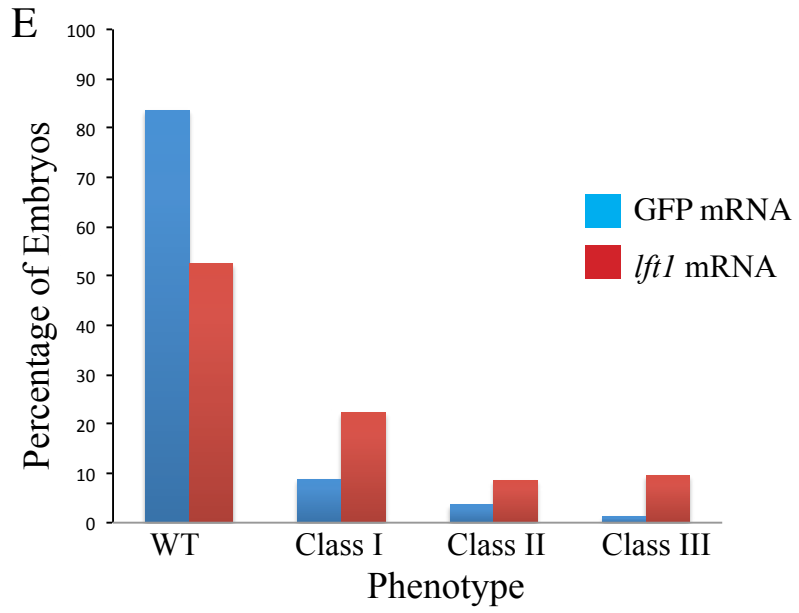
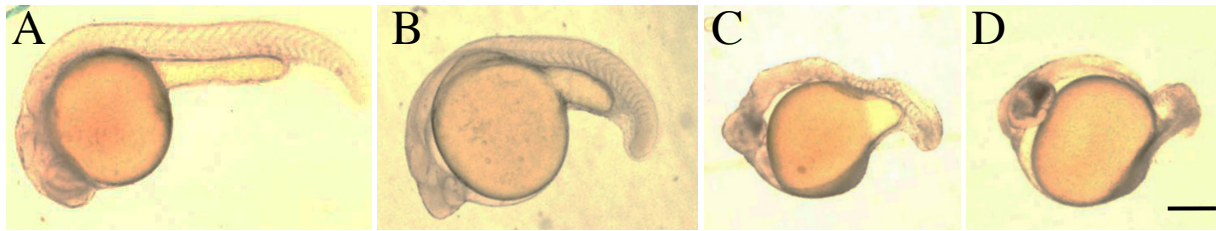
**Supplemental Table 1: The *flh::EGFP* transgene is expressed in the pineal anlage of Nodal signaling mutants with an open anterior neural tube.**

Pineal phenotype <i>flh::EGFP</i> transgene			
	Round	Elongated	Divided
WT siblings	53	0	0
<i>cyc<sup>m294</sup></i>	10	0	0
<i>sqt<sup>cz35</sup></i>	9	1	1
<i>cyc<sup>m294</sup>; sqt<sup>cz35</sup></i>	0	2	2

**Supplemental Table 2: Endogenous *flh* mRNA is expressed in the pineal anlage of Nodal signaling mutants with an open anterior neural tube.**

Pineal phenotype <i>flh</i> mRNA			
	Round	Elongated	Divided
WT siblings	67	0	0
<i>cyc<sup>m294</sup></i>	46	0	0
<i>sqt<sup>cz35</sup></i>	34	3	2
<i>cyc<sup>m294</sup>; sqt<sup>cz35</sup></i>	0	0	3

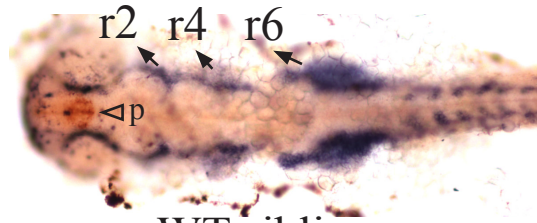
Supplemental Figure 1



Supplemental Figure 2

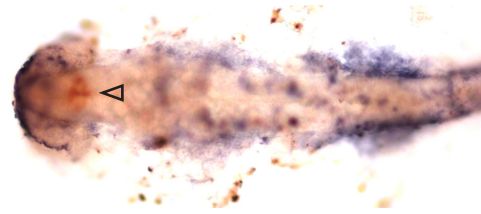
*ctn/flh* expression

A



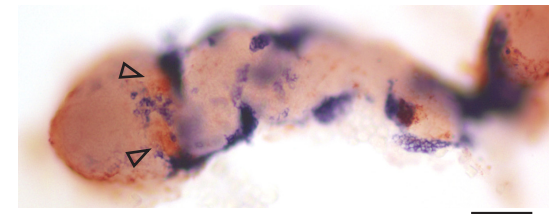
WT siblings  
oval pineal

B

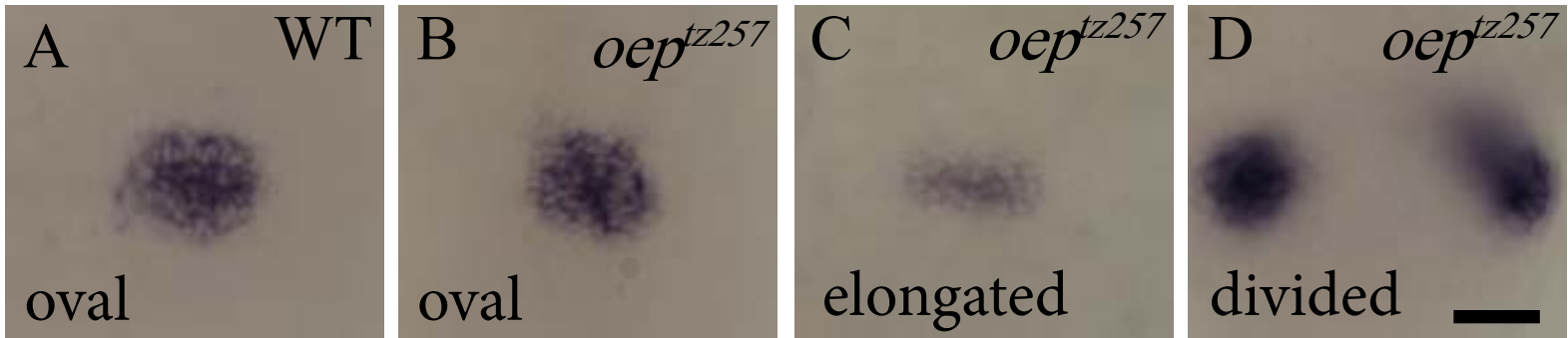


*sqt*  
oval pineal

C



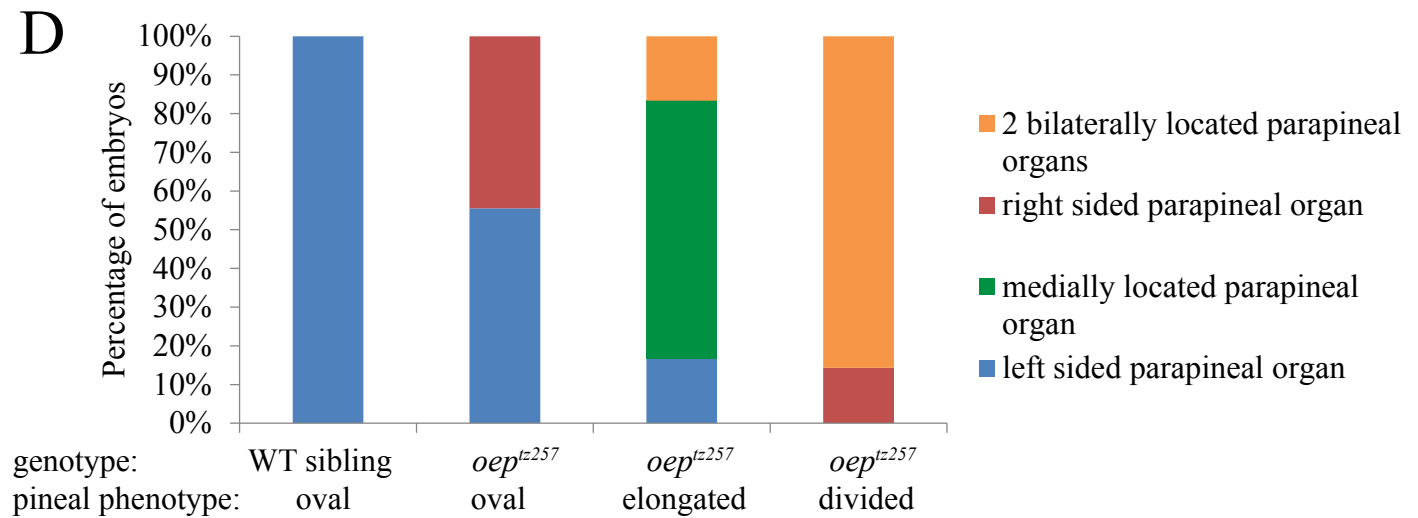
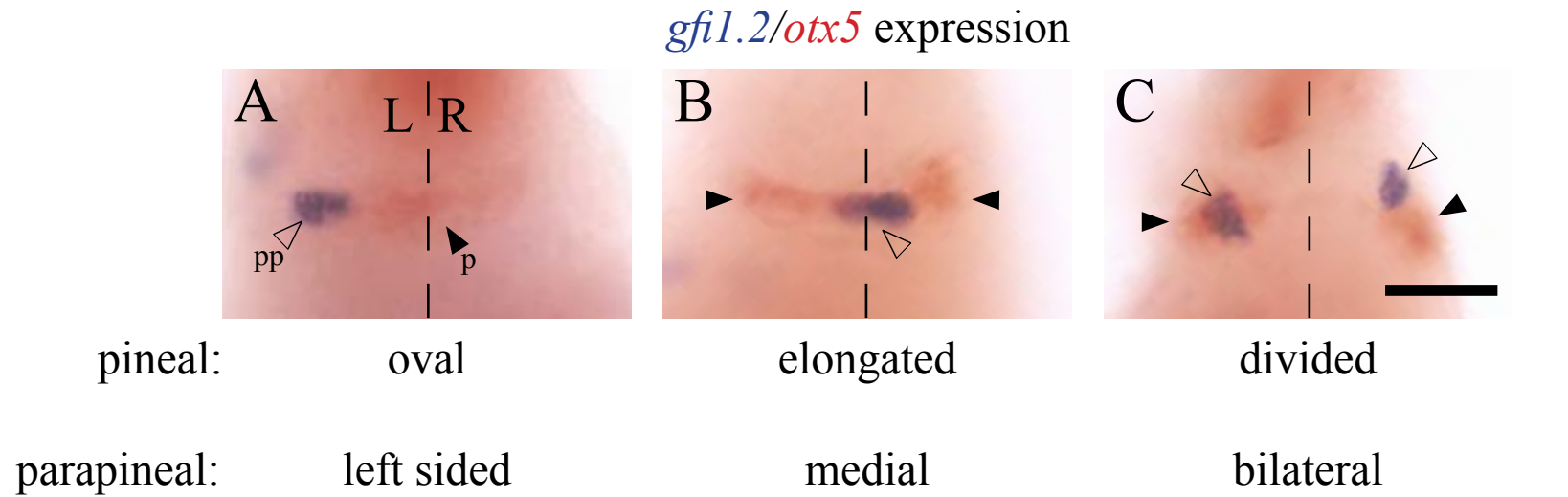
*sqt*  
divided pineal

*otx5* expression

E

	Pineal Phenotype		
	oval	elongated	divided
WT sibs	37 (100%)	0 (0%)	0 (0%)
<i>oep</i> <sup>m134</sup>	22 (84%)	2 (7%)	2 (7%)
WT sibs	54 (100%)	0 (0%)	0 (0%)
<i>oep</i> <sup>tz257</sup>	33 (41%)	7 (8%)	39 (49%)

# Supplemental Figure 4



# Supplemental Figure 5

*kctd12.1* expression

