Polarized collective cell movements drive antero-posterior folding to form the avian hindgut

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Tabin Lab

Morphogenesis of the gut tube

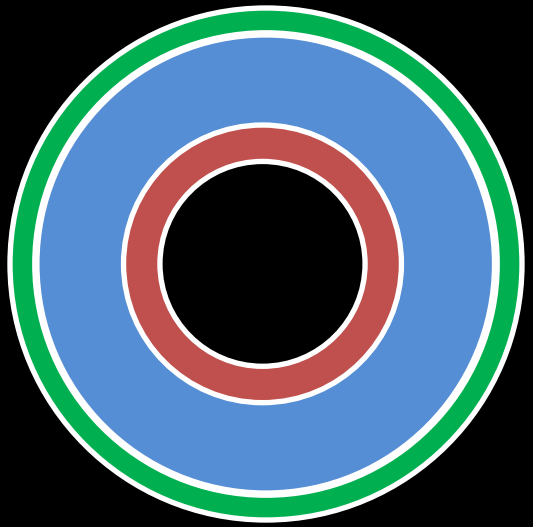
18 hours
(HH 4)

72 hours
(HH 20)

ECTODERM

MESODERM

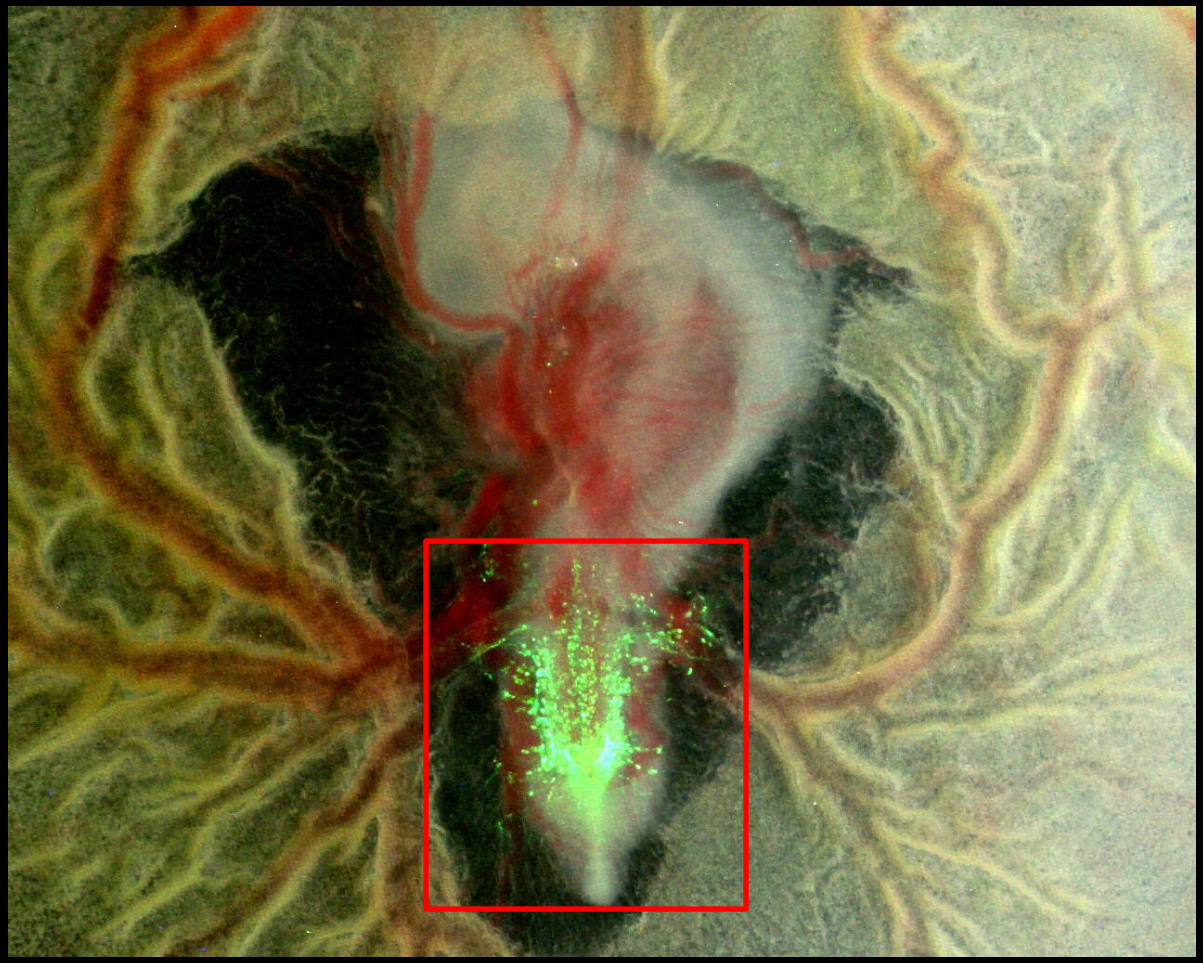
ENDODERM



NEPA21 Electroporation parameters

- Poring pulse: 40V, 3 pulses, 0.1 ms duration, 50 ms pause, 10% decay (no polarity)
- Transfer pulse: 4V, 5 pulse, 5 ms duration, 50 ms pause, 40% decay (no polarity)
- DNA: 5ug/uL in 5% sucrose PBS
- Impedance ~0.5-0.55 kOhm
- Viability 70-80%, Efficiency 50-70%
- BTX830: Viability 3%, Efficiency 20-80%

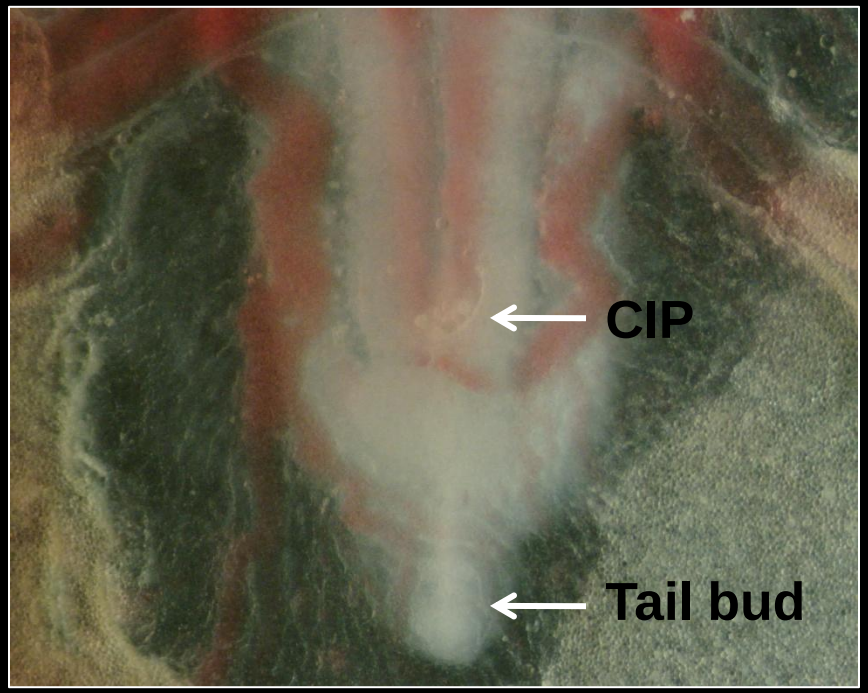
Electroporation of the chick endoderm

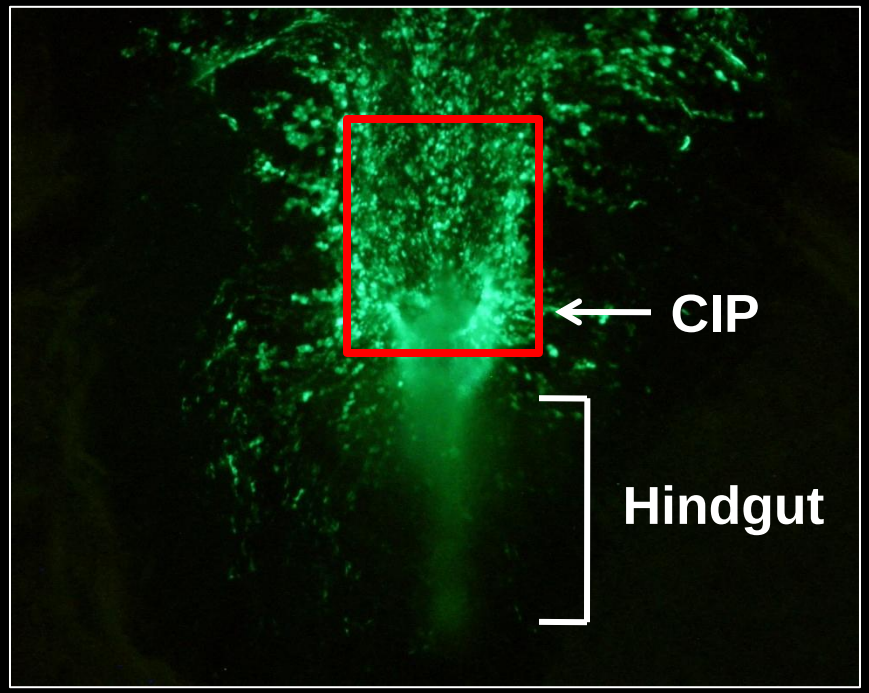


HH18 (72 hours)

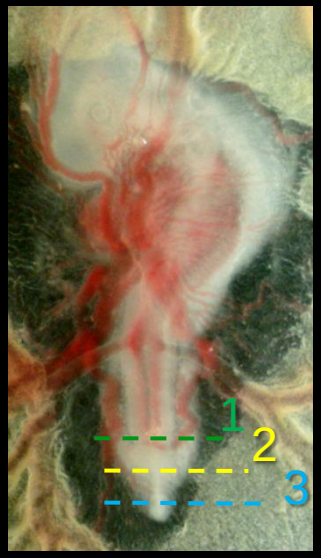
pCAG-GFP

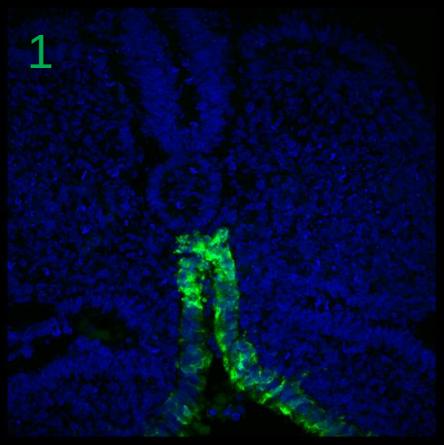
Electroporation of the chick endoderm

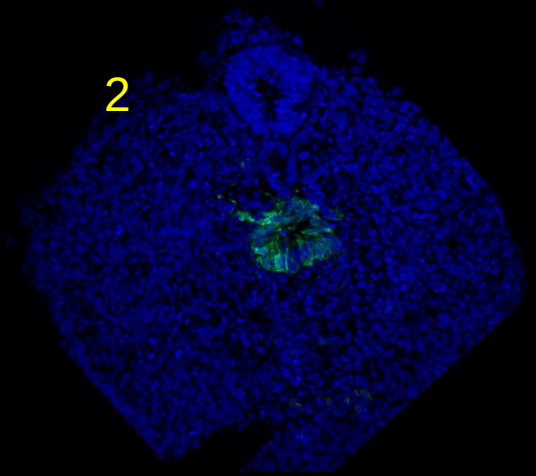


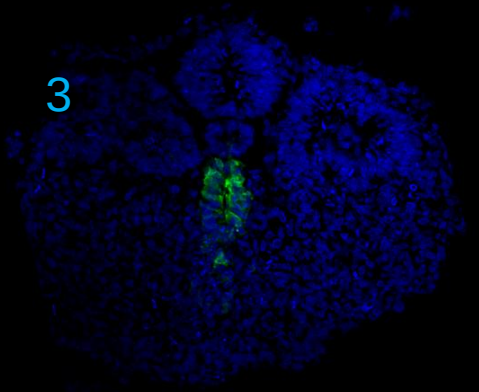


Cross sections through the hindgut following pCAG-GFP electroporation into the endoderm

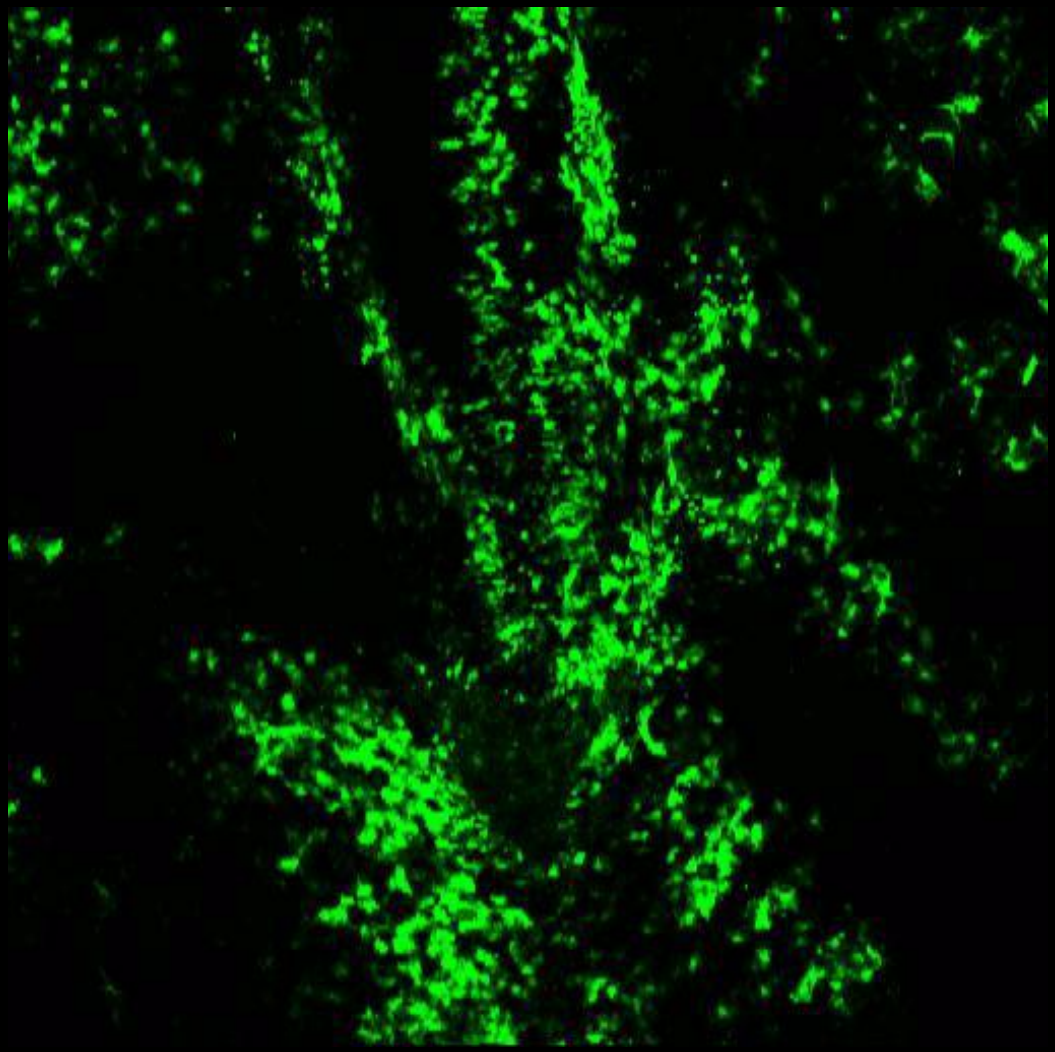








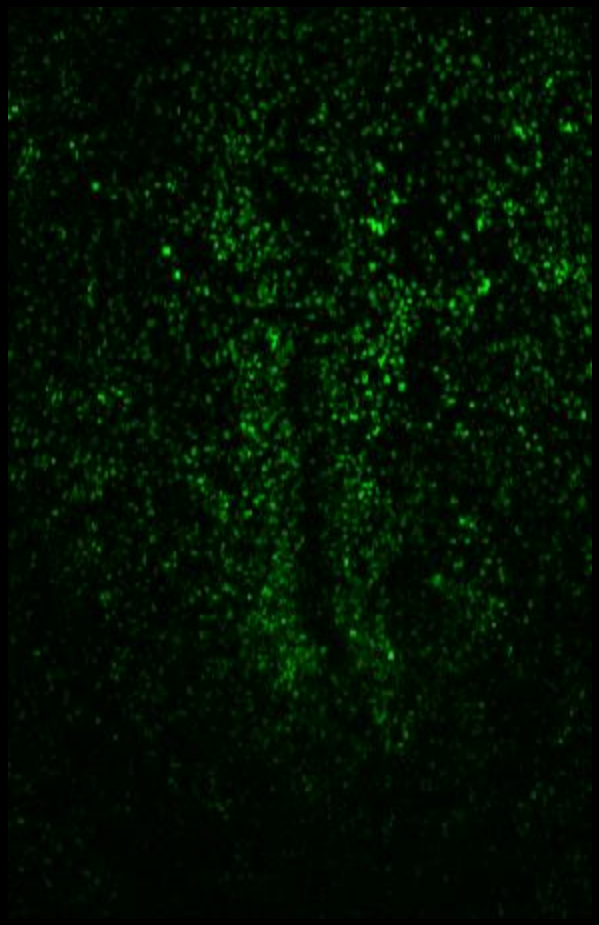
Cells flow posteriorly during hindgut formation

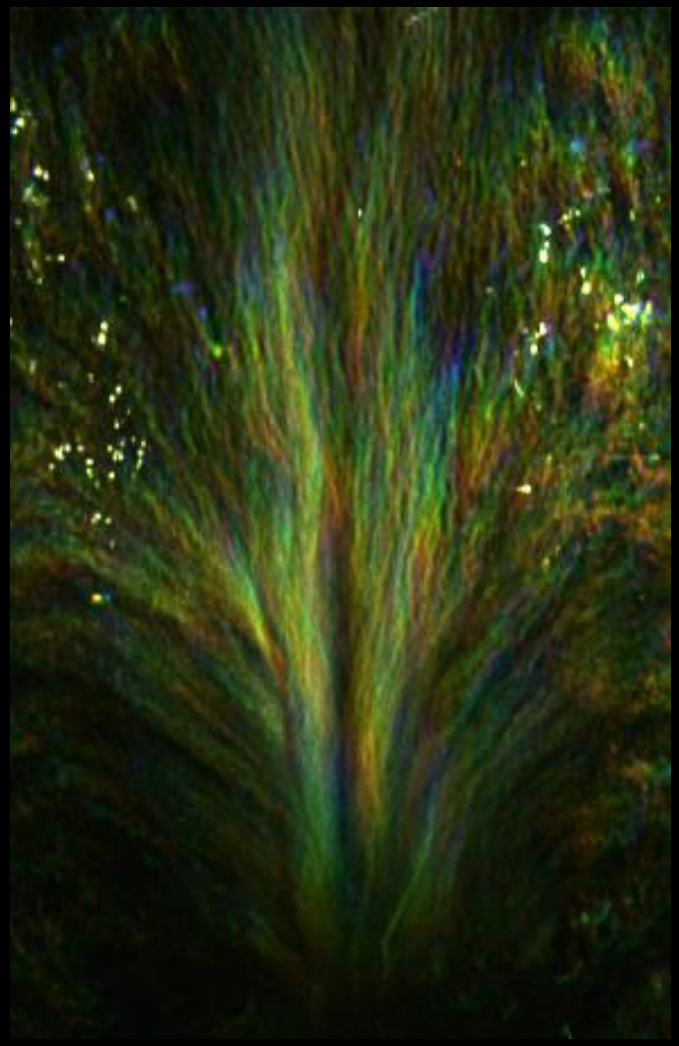


8 hr (HH14 to HH17)

pCAG-GFP

pCAG-H2B:GFP





8 hours (HH13-HH)14

time →