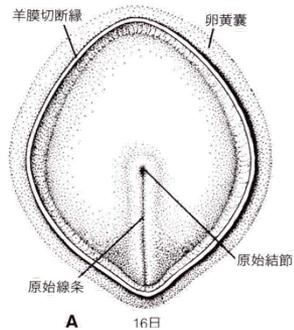


体軸形成

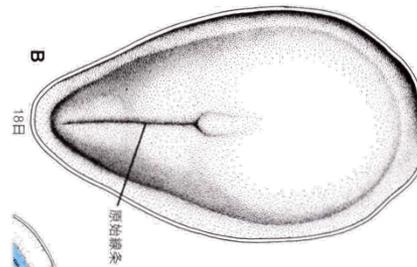
鈴木先生の講義とリンクさせて下さい

「内政」

Body axis formation



柿の種の断面図?
おしり?
カニのハサミ?



EMT

リアリティ注入:
ニワトリ胚,
ゼブラフィッシュ胚

ある構造体がどうやって**伸びるか** について

形態形成過程における細胞たちの **動き**. 集まり・群れ

Convergent Extension

Intercalation

動画も色々

ちから?

平面極性

PCP (Planar Cell Polarity),
Wnt-PCP pathway
ウイント

(2)胎膜,体腔,消化管,胎盤

外交(寄生)の時間軸

「年表」の比較

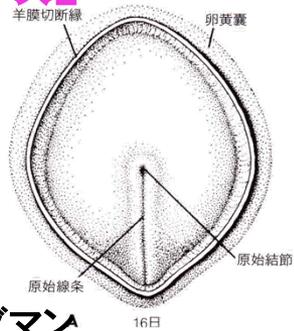
内政(からだづくり)の時間軸

(3)体軸形成 (12/22の復習と本日4時間目のイントロを兼ねて)

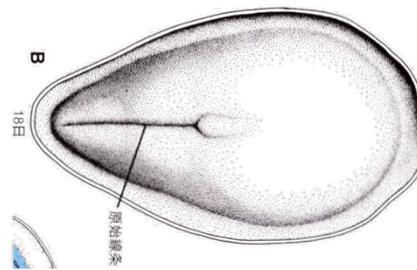
「内政」

Body axis formation

EMT



柿の種の断面図?
おしり?
カニのハサミ?



リアリティ注入:
ニワトリ胚

ラングマン
教科書82頁

形態形成過程における細胞たちの動き.

Convergent Extension

Intercalation

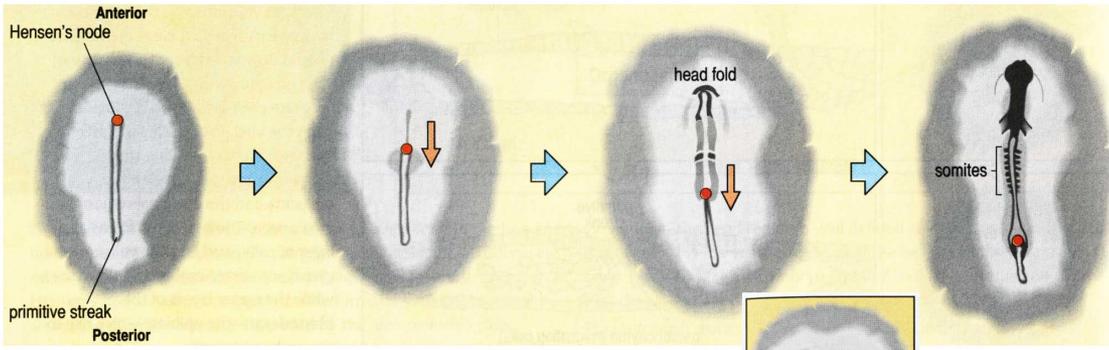
動画も色々

平面極性

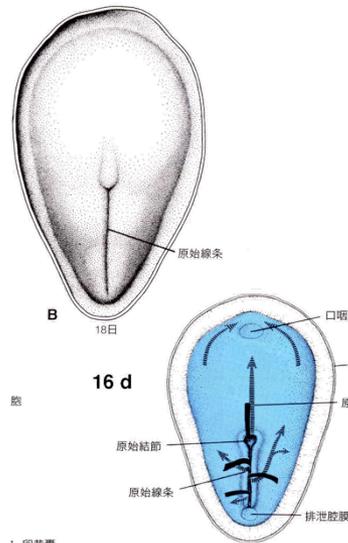
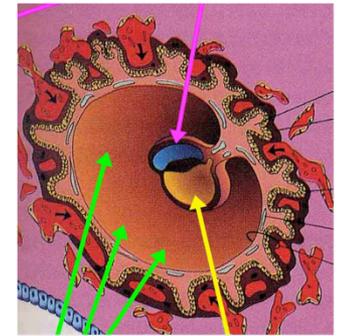
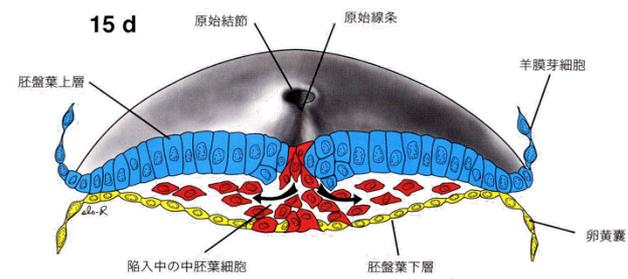
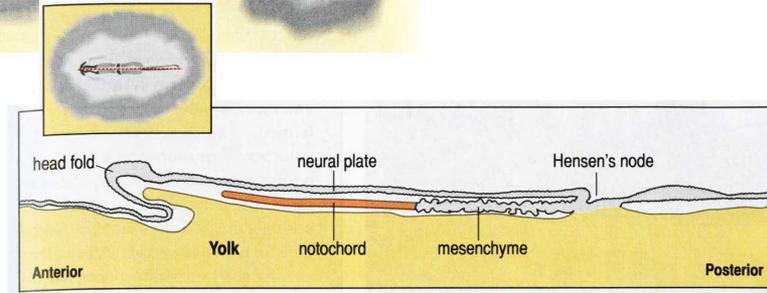
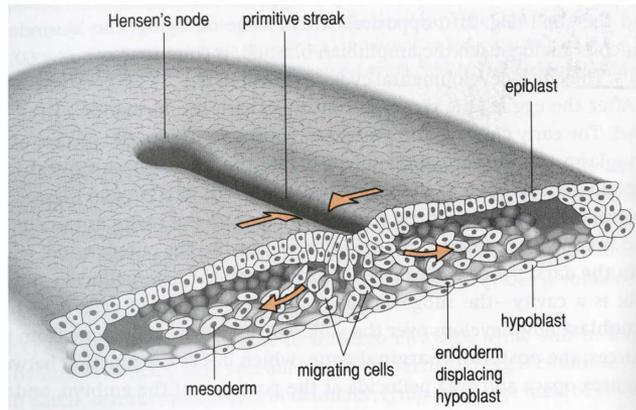
PCP (Planar Cell Polarity),

Wnt-PCP pathway

ウイント



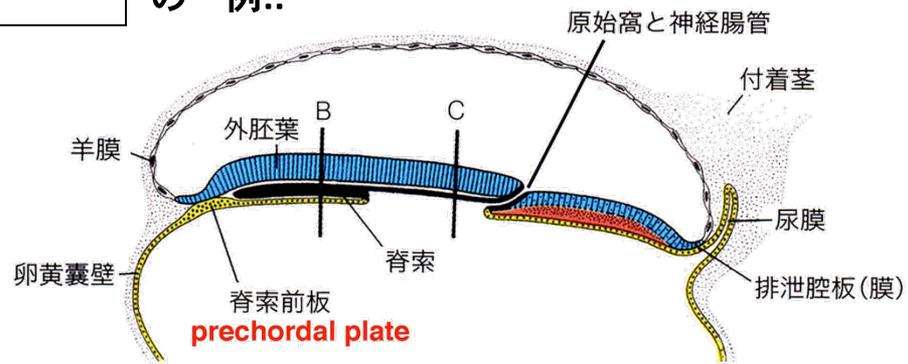
Wolpert
教科書の図

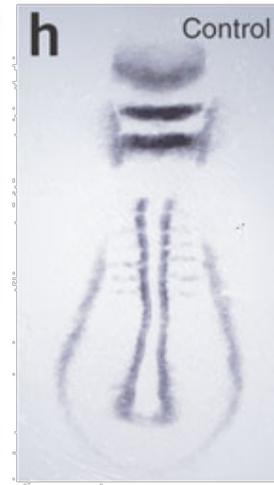
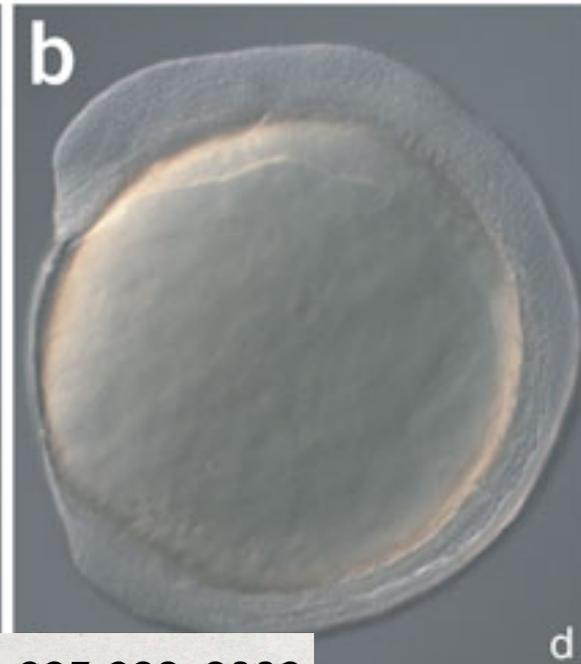


EMT の一例..

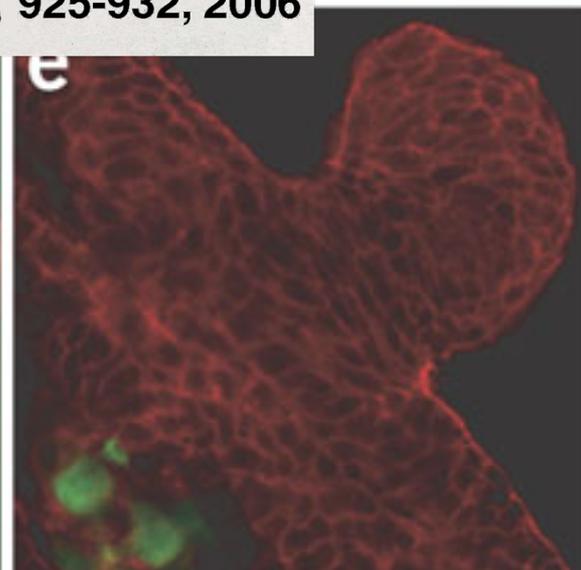
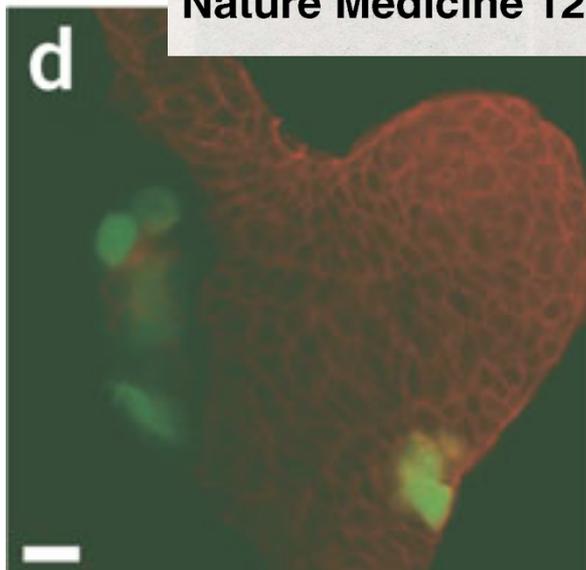
17 d

ラングマン
教科書64頁

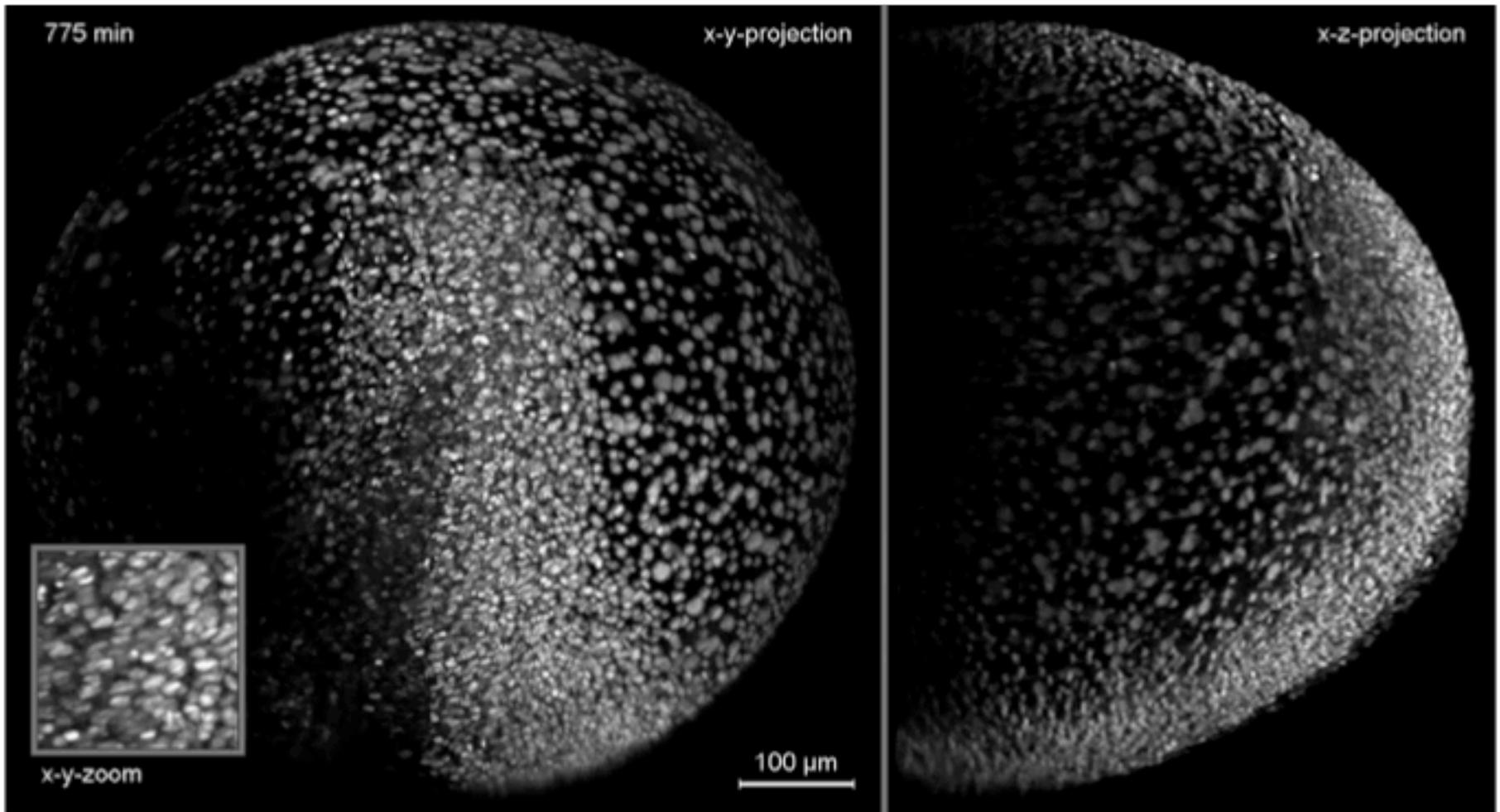




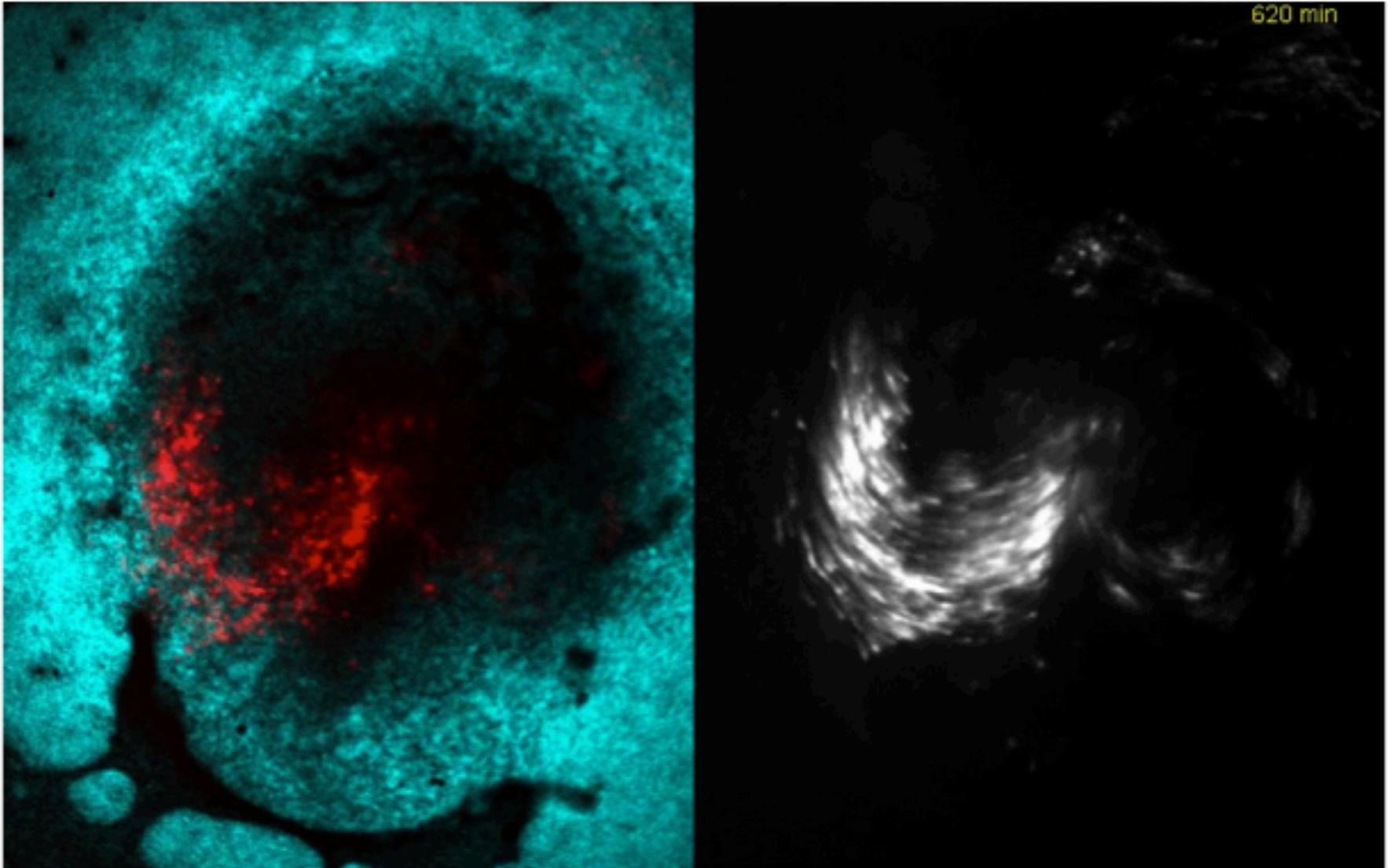
Nature Medicine 12, 925-932, 2006



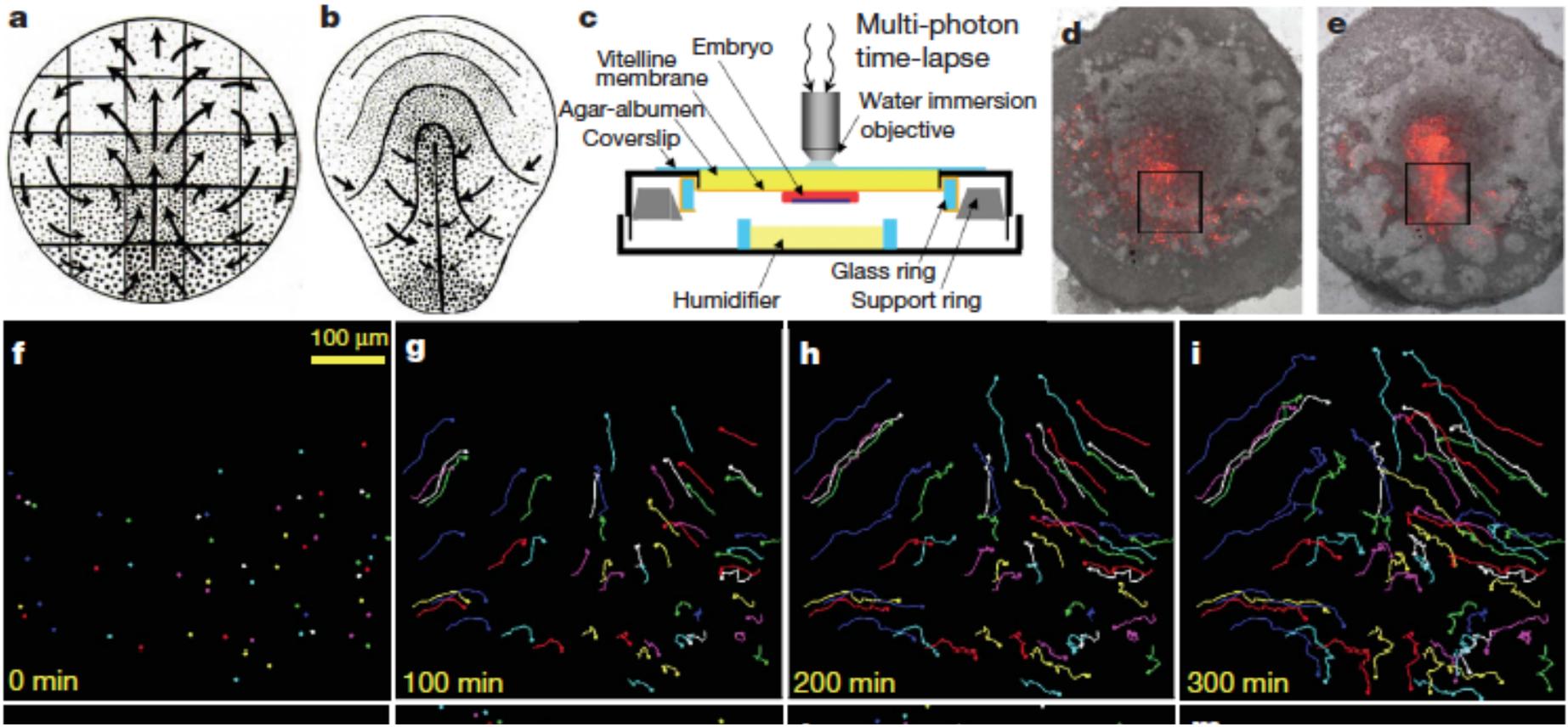
Embryonic and tumorigenic pathways converge via Nodal signaling: role in melanoma aggressiveness



Science 322, 1065, 2008 (Nov 14)
Keller et al. (EMBL)



Nature 449, 1049, 2007 Voiculescu, Stern team (UK)

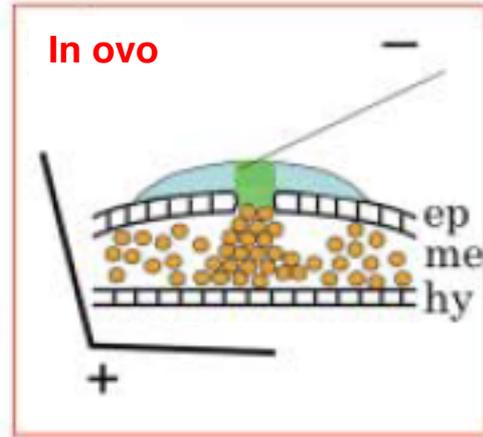
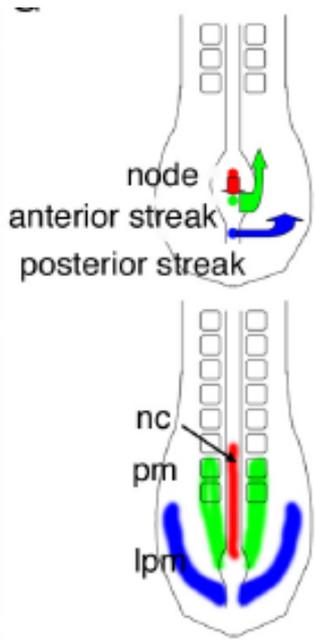


Nature 449, 1049,
2007
Voiculescu,
Stern team (UK)

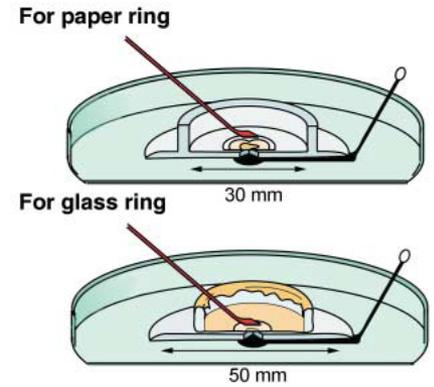
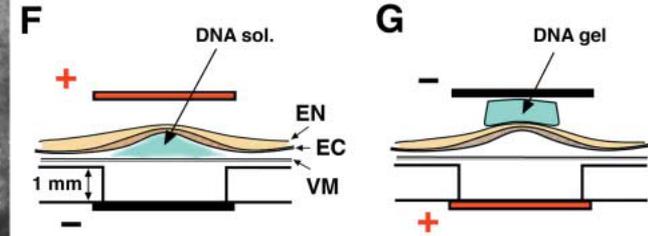
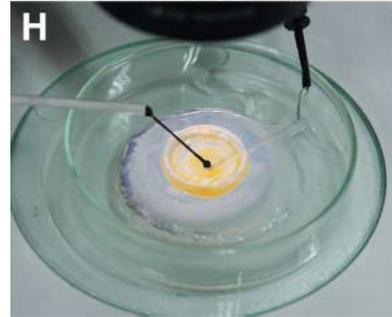
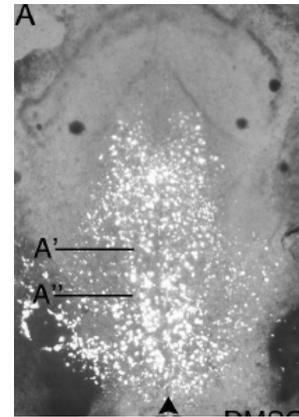
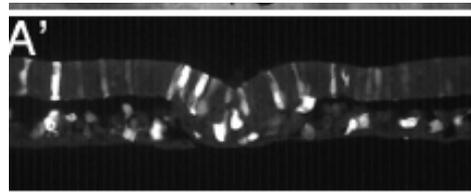
electroporation

Hardy et al.
BMC Dev Biol (2011)

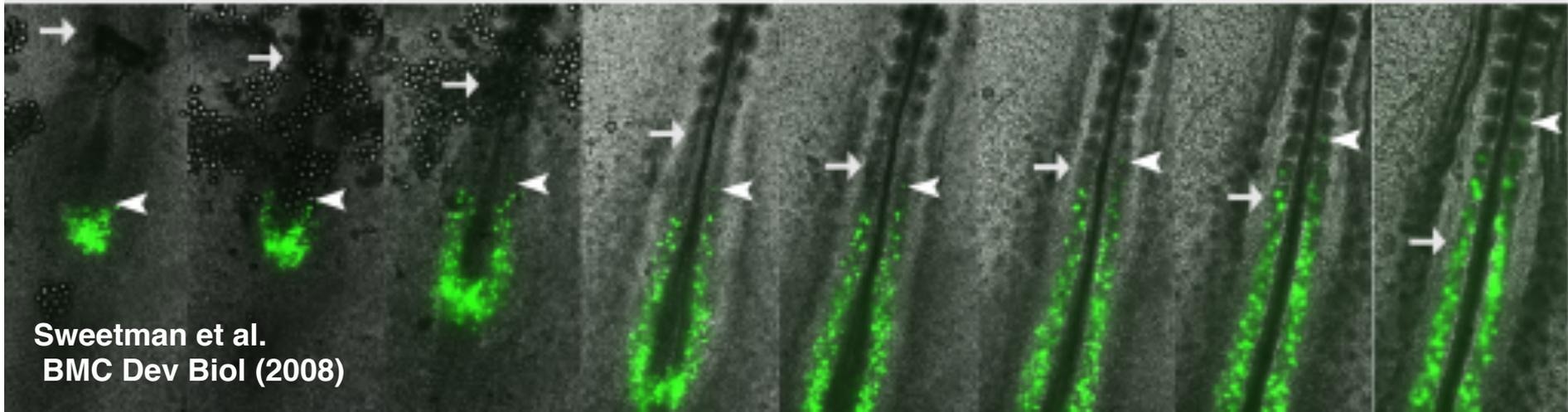
Kenji Shimamura lab
Dev Growth & Differ, (2008)



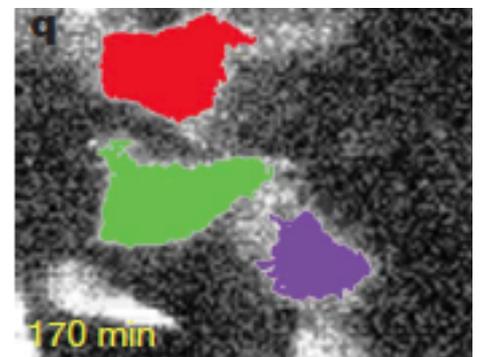
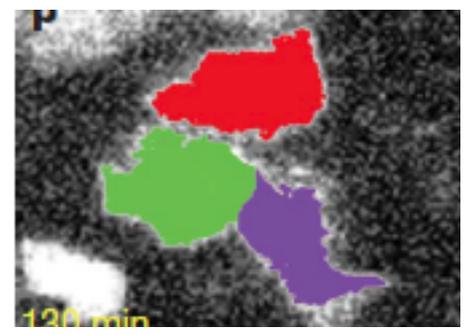
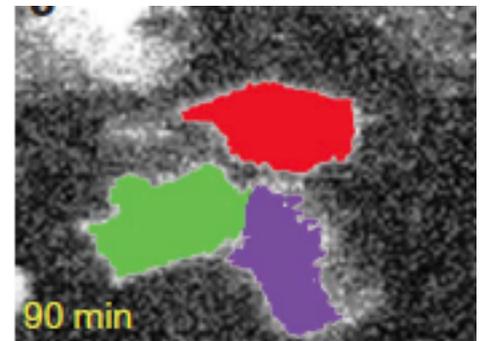
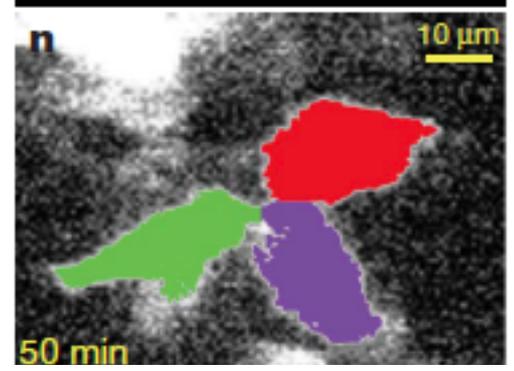
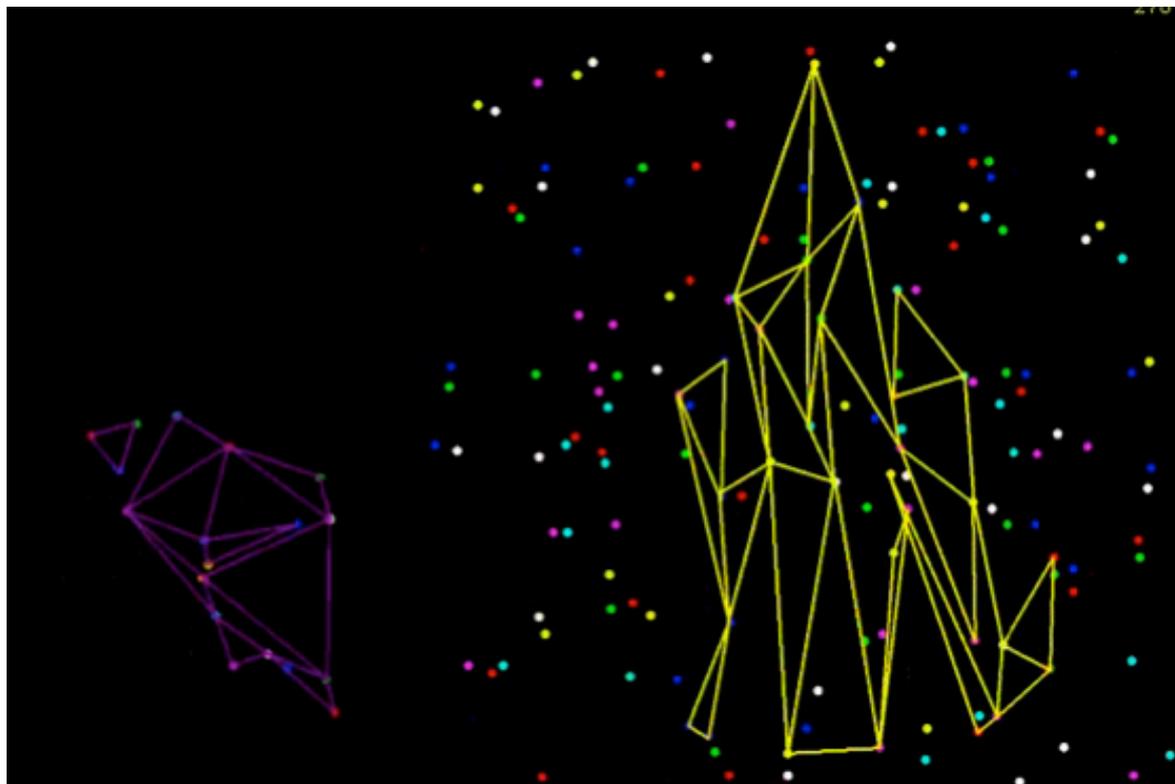
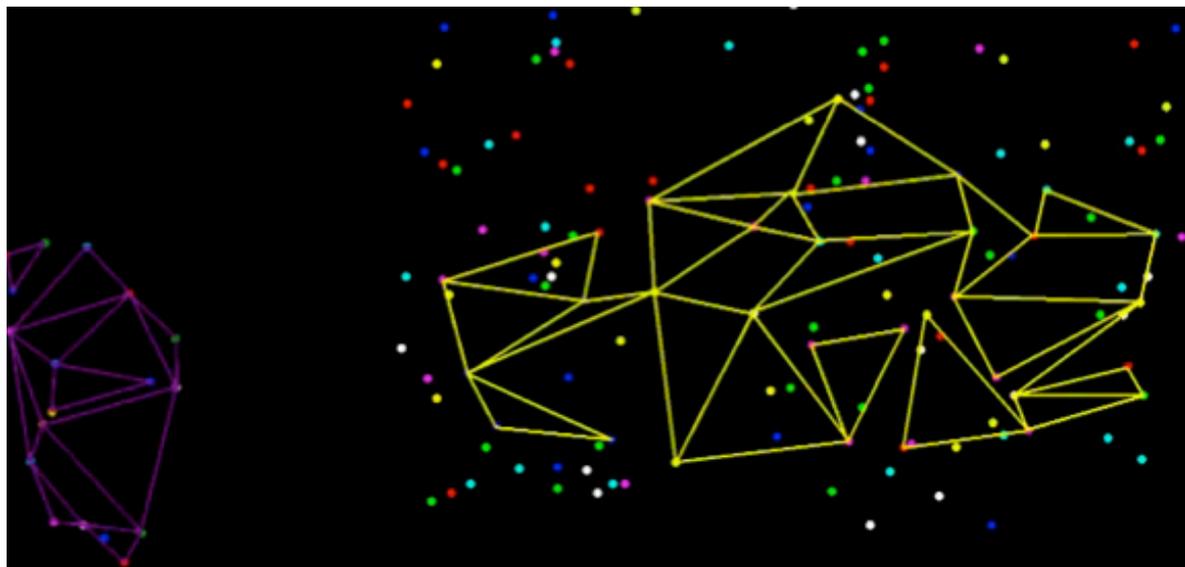
Harukazu Nakamura lab
Dev Growth & Differ, (2008)



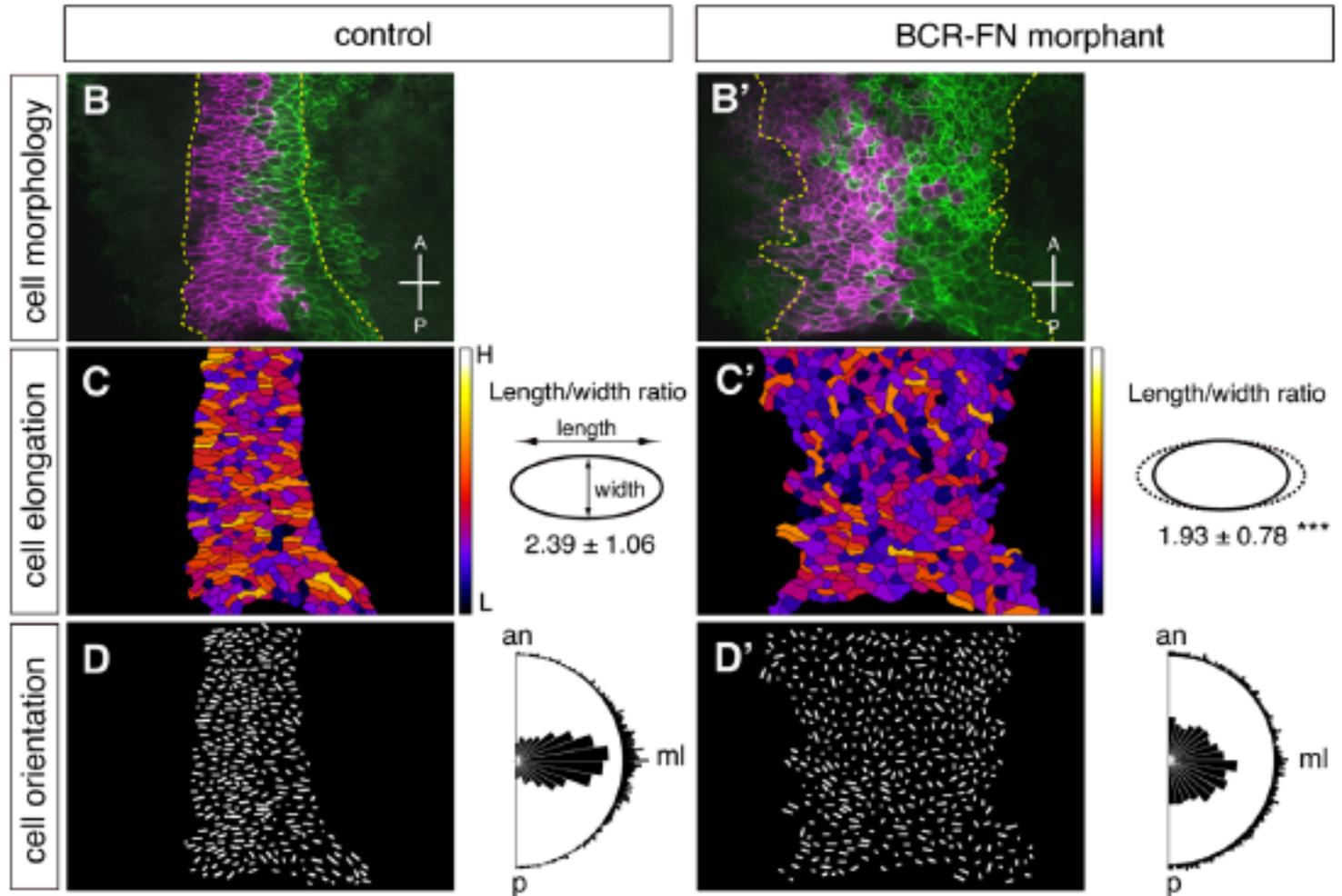
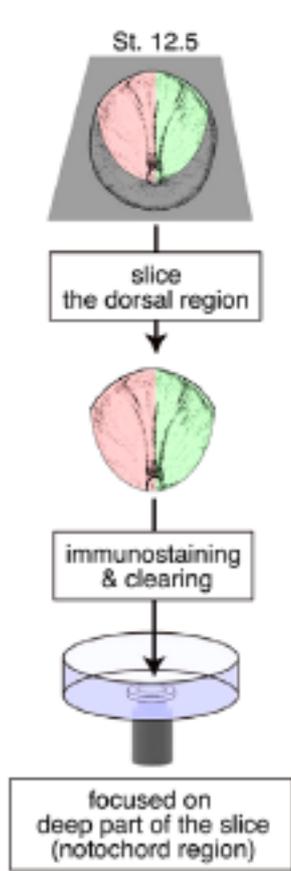
0h 2.5h 5h 7.5h 10h 12.5h 15h 17.5h



Sweetman et al.
BMC Dev Biol (2008)

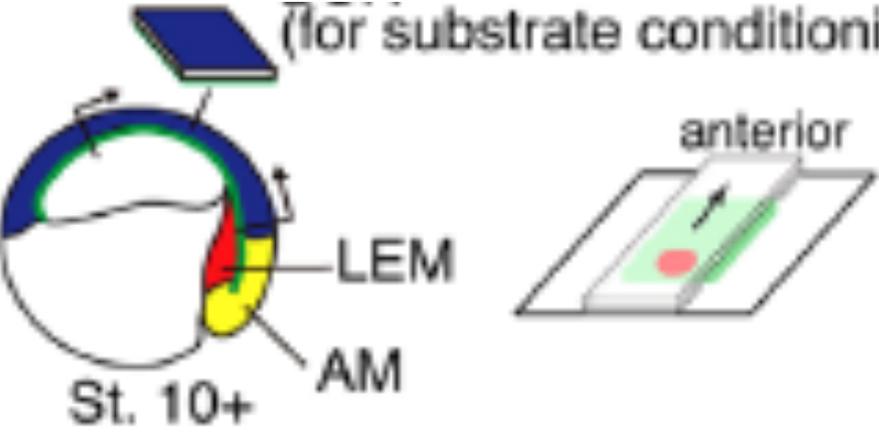


A

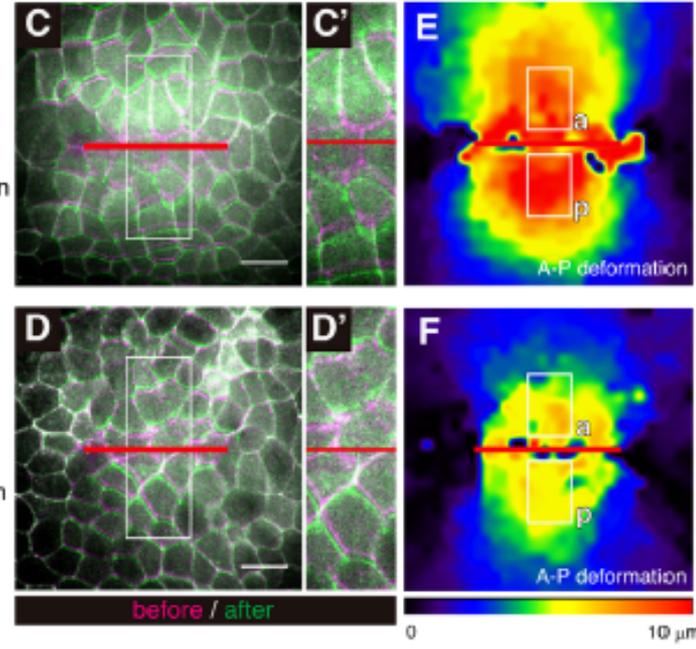
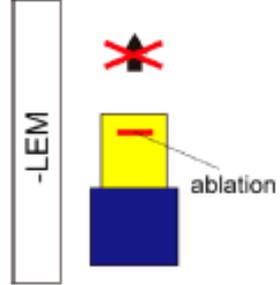
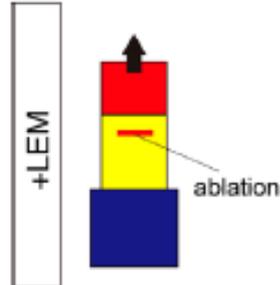
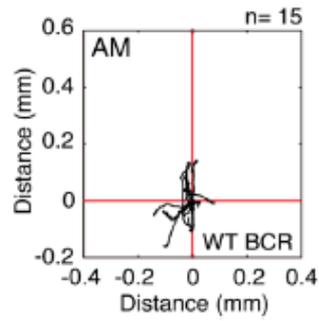
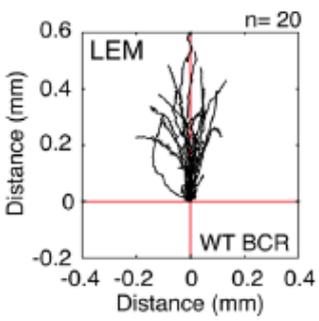
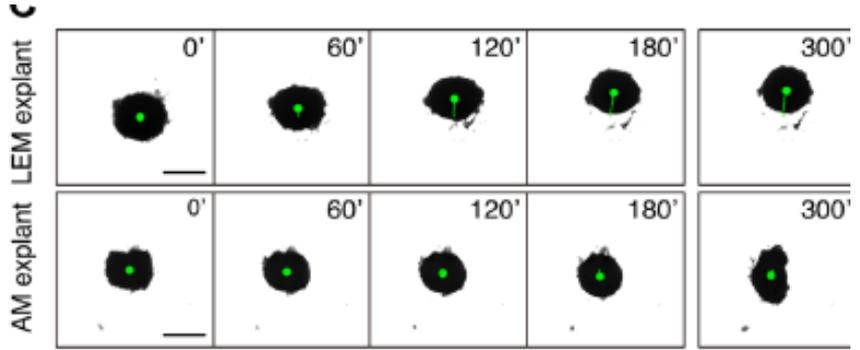
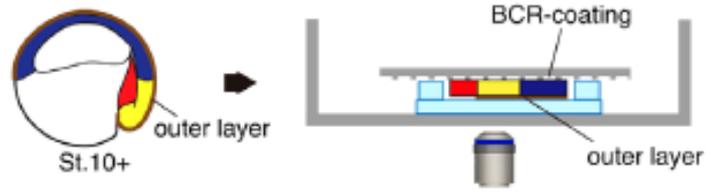


Hara et al (Naoto Ueno Lab)
Dev. Biol (2013)

(for substrate conditioning)



Hara et al (Naoto Ueno Lab) Dev. Biol (2013)



External mechanical cues trigger the establishment of the anterior-posterior axis in early mouse embryo.

Dev. Cell 27, 131, 2013

マウス胚の前後軸決定に先立って出現する distal visceral endoderm (DVE)の形成に、子宮から胚(U字型)に対して加わった圧縮的外力が貢献する・必要と示した。

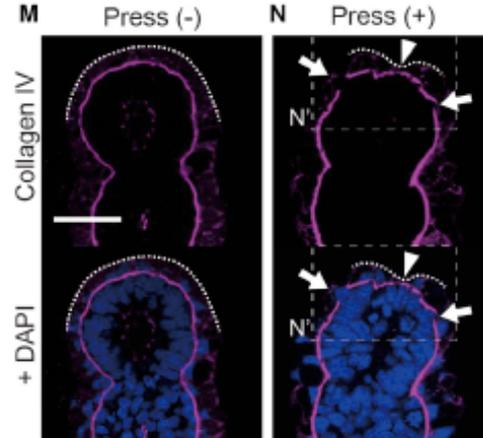
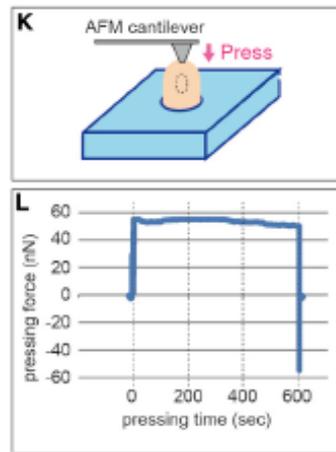
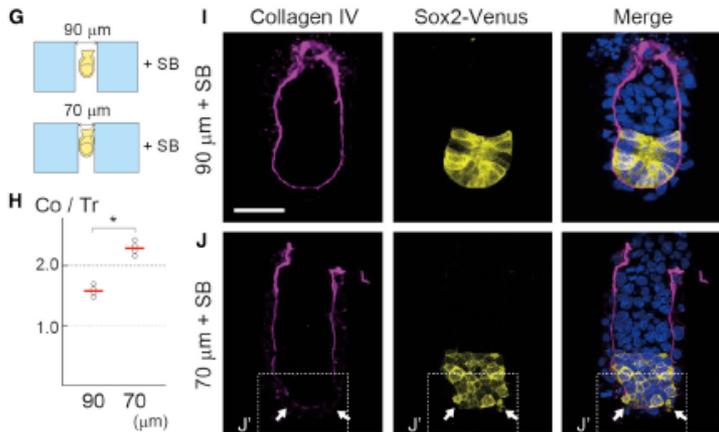
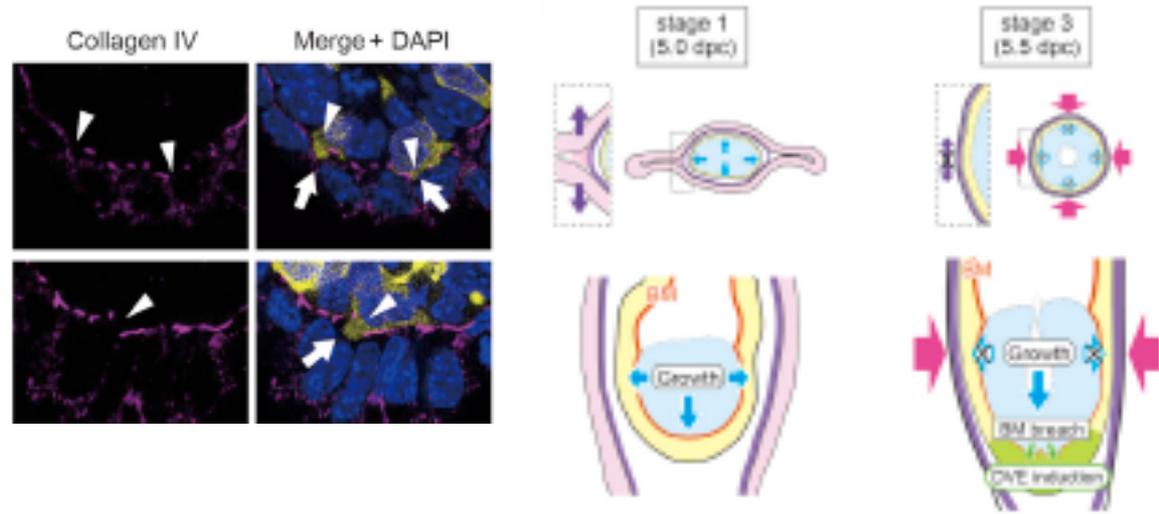
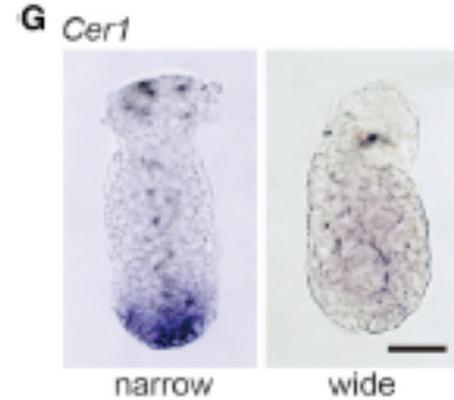
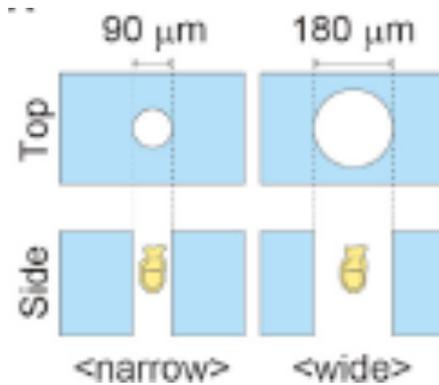
具体的には:

「U」の「谷底」部分での基底膜の破れ

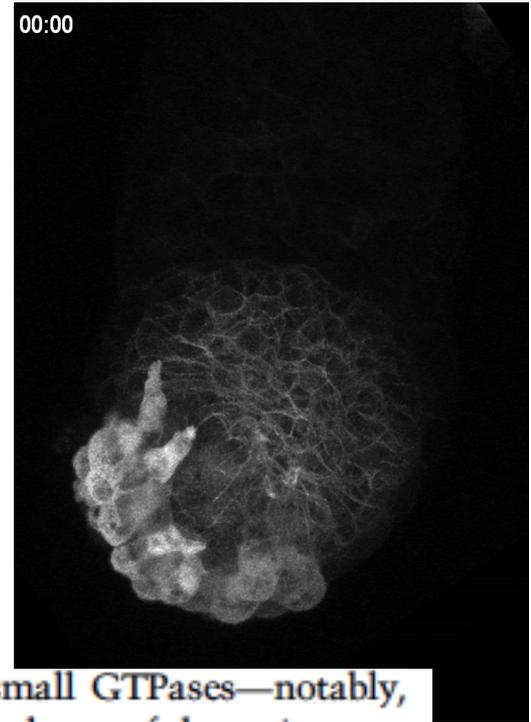
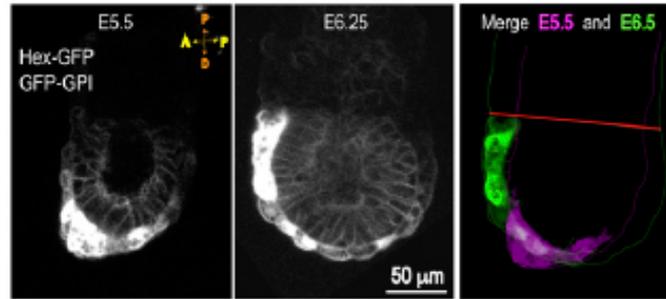
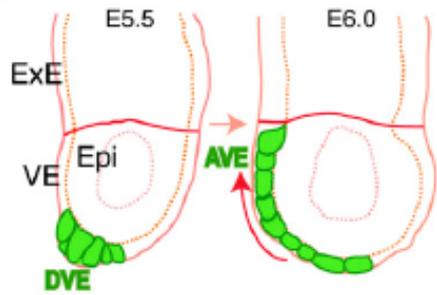
→ epiblast cellsの侵入 (transmigration)

→ Cer-1 (Cerberus 1) 発現し

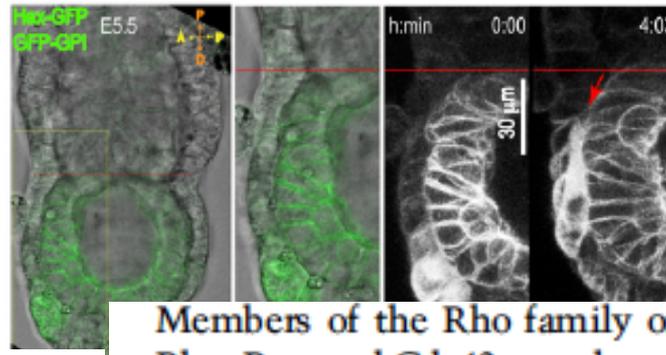
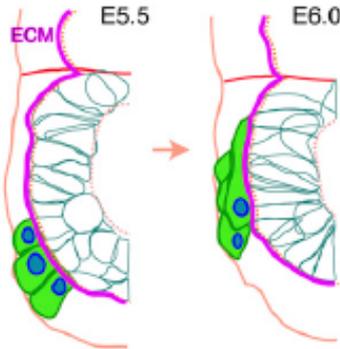
DVEとしての個性化。



A

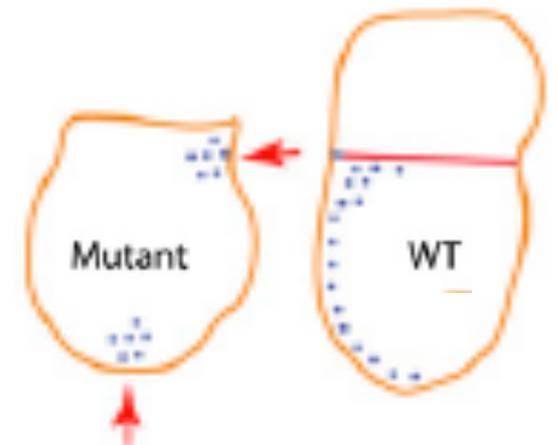
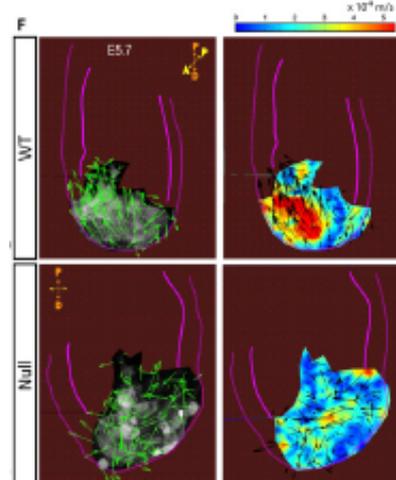
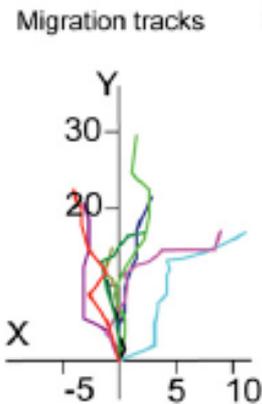
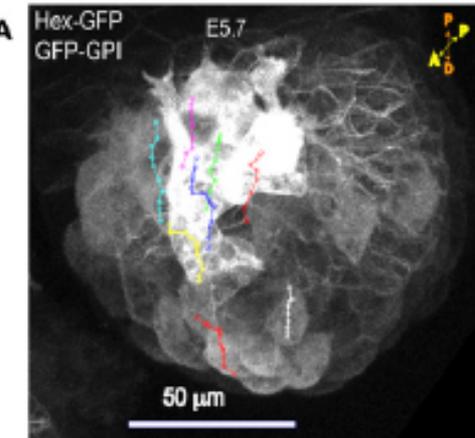


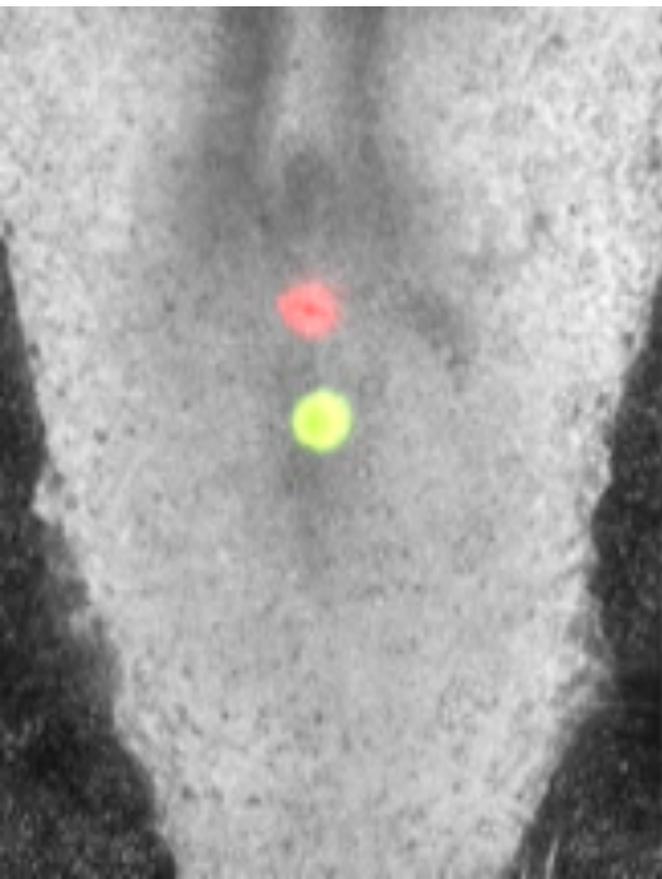
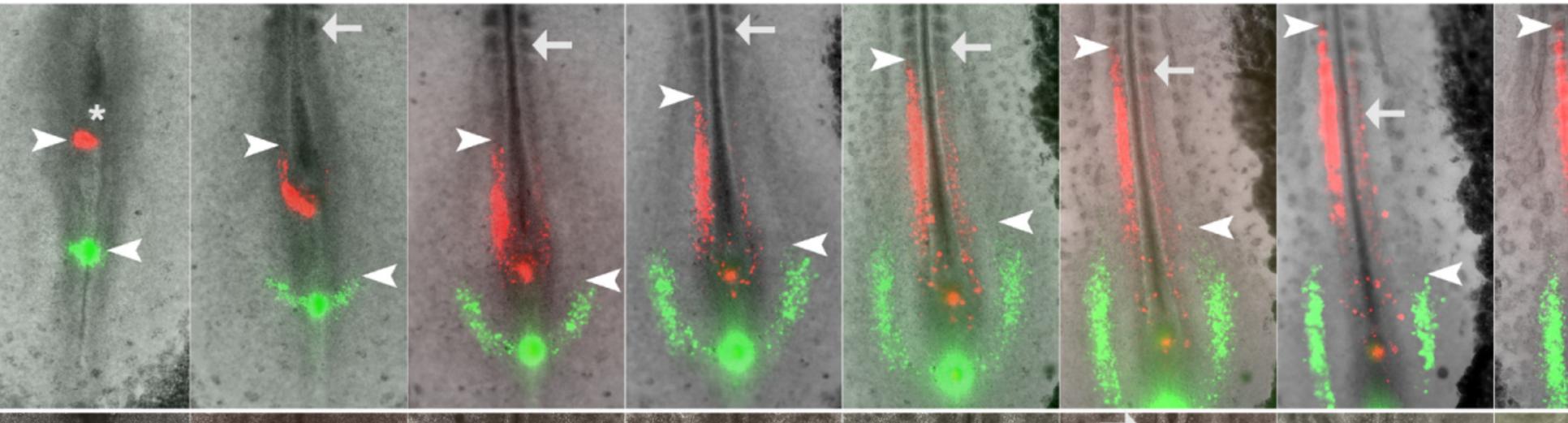
B



Members of the Rho family of small GTPases—notably, Rho, Rac, and Cdc42—are key regulators of the actin cytoskeleton, and their spatially localized activities are thought to be essential for promoting cell migration (Machacek

β -Pix directs collective AVE migration





BMC Developmental Biology 2008, 8: 63

Munsterberg team (UK)

**Somitogenesis
高橋先生(1月)を
お楽しみに!**

