

Cours 2 : Cellules souches et différenciation dans l'intestin

J.F. Joanny

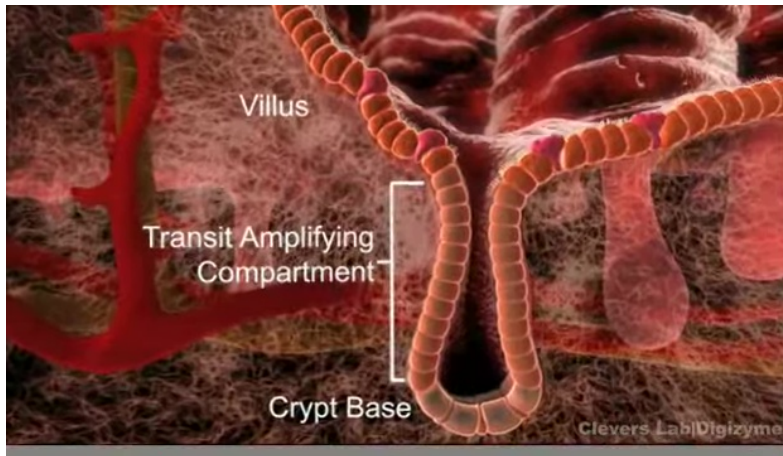
Cours 2, Collège de France, 15 février 2021



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Différenciation cellulaire dans l'intestin



H.Clevers

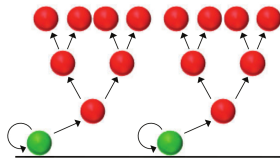


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Assymétrie de la division cellulaire

A Division asymmetry



B Population asymmetry



Klein and Simons

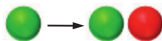


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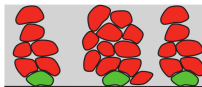


Modes de renouvellement des cellules souches

A Invariant asymmetry

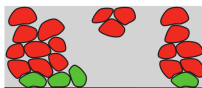
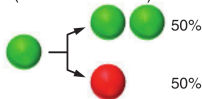


Long-term clonal labelling outcome:



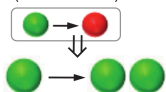
- One stem cell per clone
- Invariant long-term clone size distribution

B Population asymmetry (cell autonomous)



- Clones lost over time
- Neutral drift of number of stem cells per clone
- Clone size variability grows with time
- 'Universal' clone size distributions (Box 2)

C Population asymmetry (cell extrinsic)



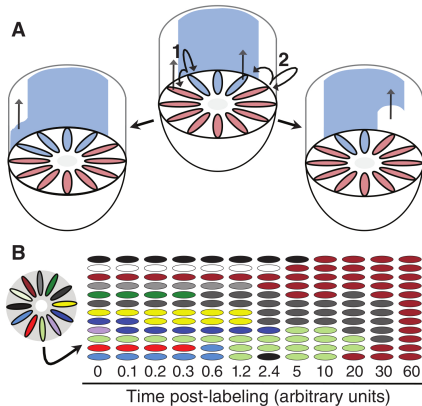
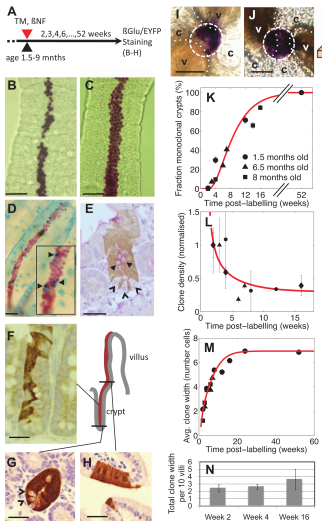
Klein and Simons



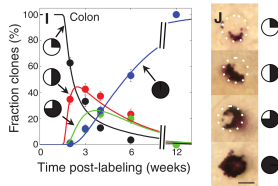
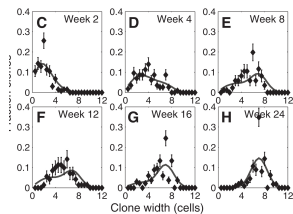
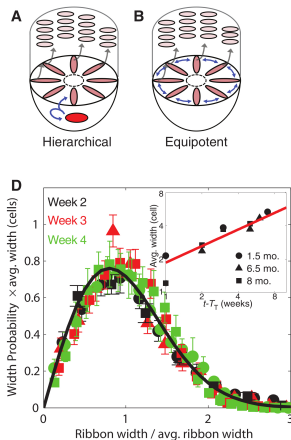
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G E
C E

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Together, let's beat cancer.

Cellules souches de l'épithélium intestinal



Dérive neutre extrinsèque



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