

1. Palestras da linhagem germinativa a gametogênese
2. Discussão dos resultados da recuperação durante a regeneração em planárias
3. Prática *C. elegans*
4. Explicar preparativos para a prática da próxima semana (Espermograma)





DEVELOPMENTAL BIOLOGY, Eighth Edition, Chapter 19, Opener © 2006 Sinauer Associates, Inc.



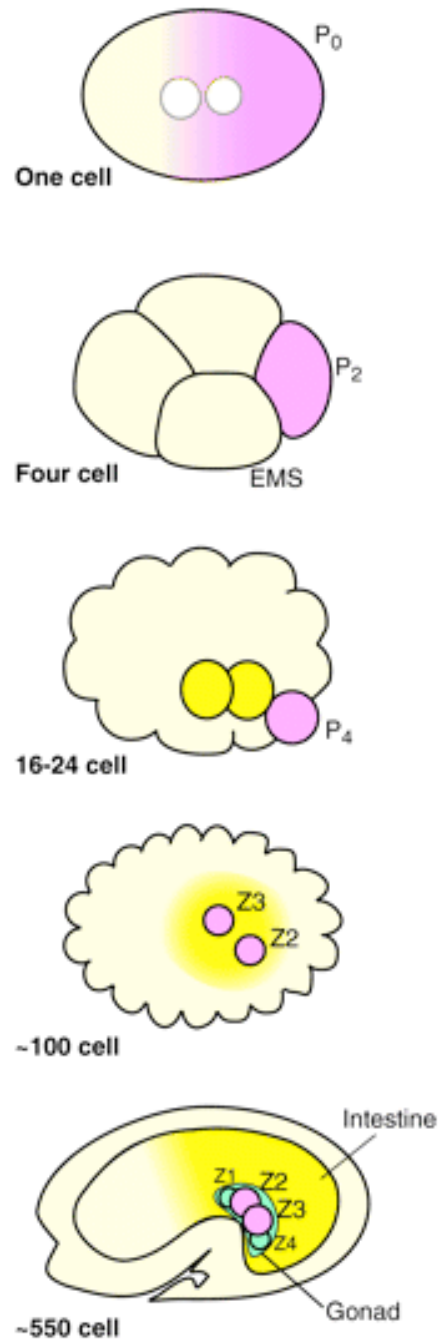
PGCs da crista gonadal
da tartaruga

Sternoterus odoratus

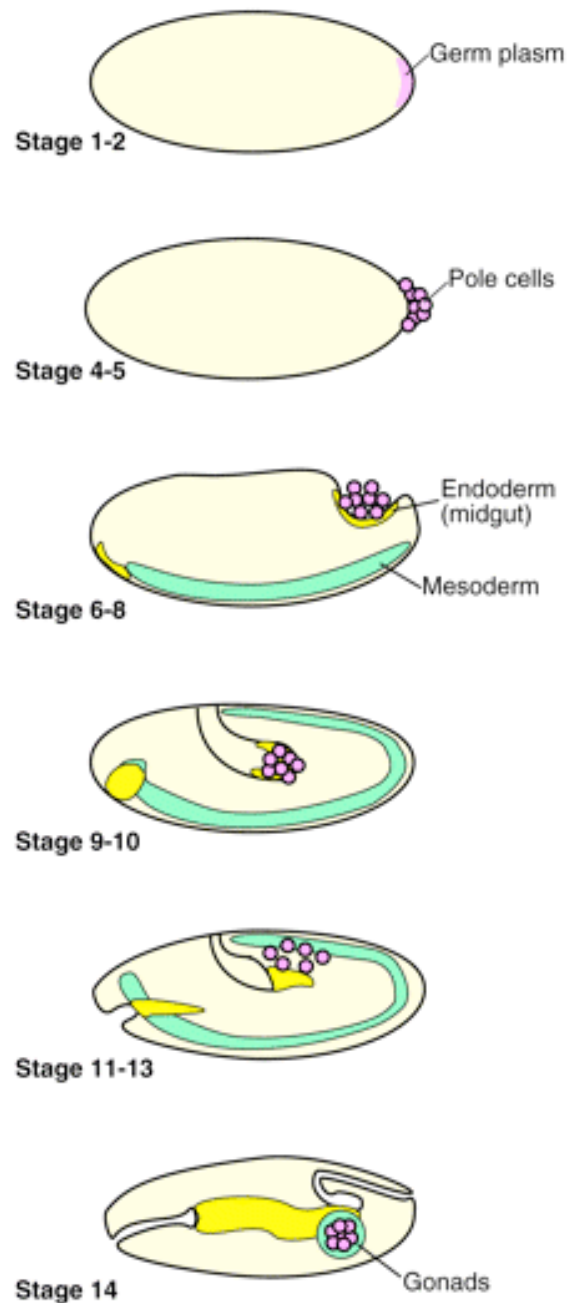
(Extavour, 2003)

Formas de determinação das células germinativas em modelos animais

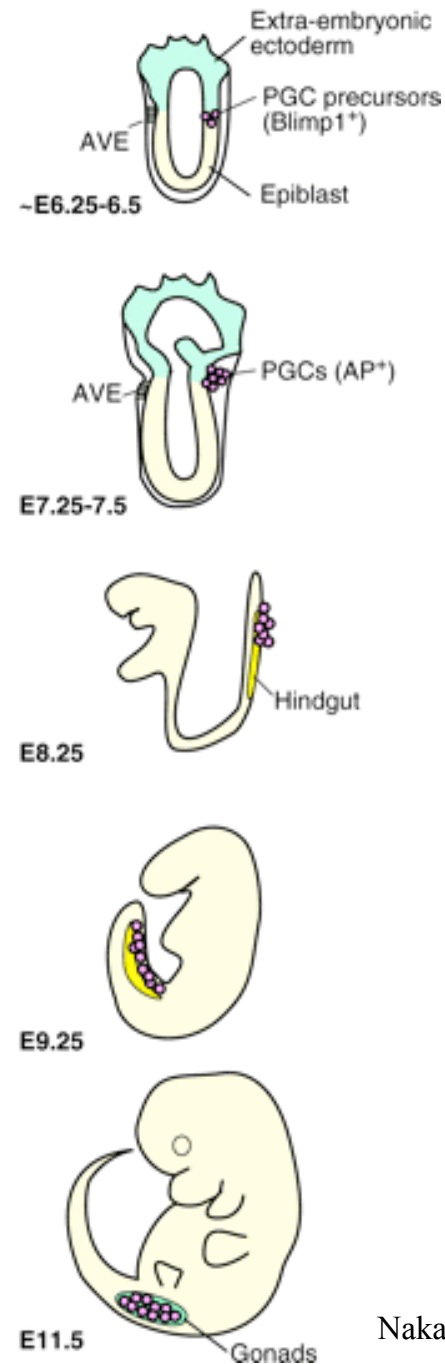
A *C. elegans*



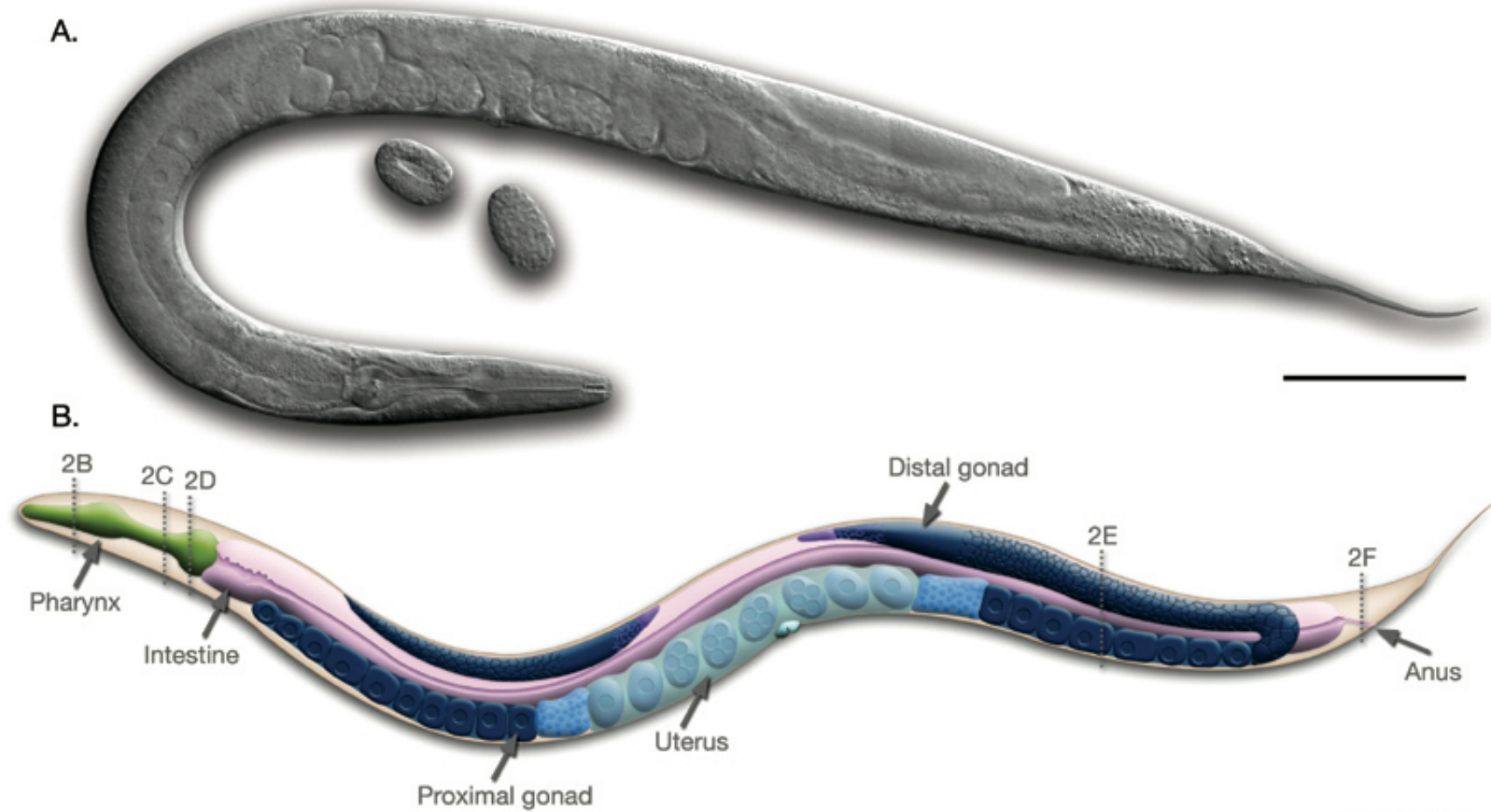
B *Drosophila*



C Mouse

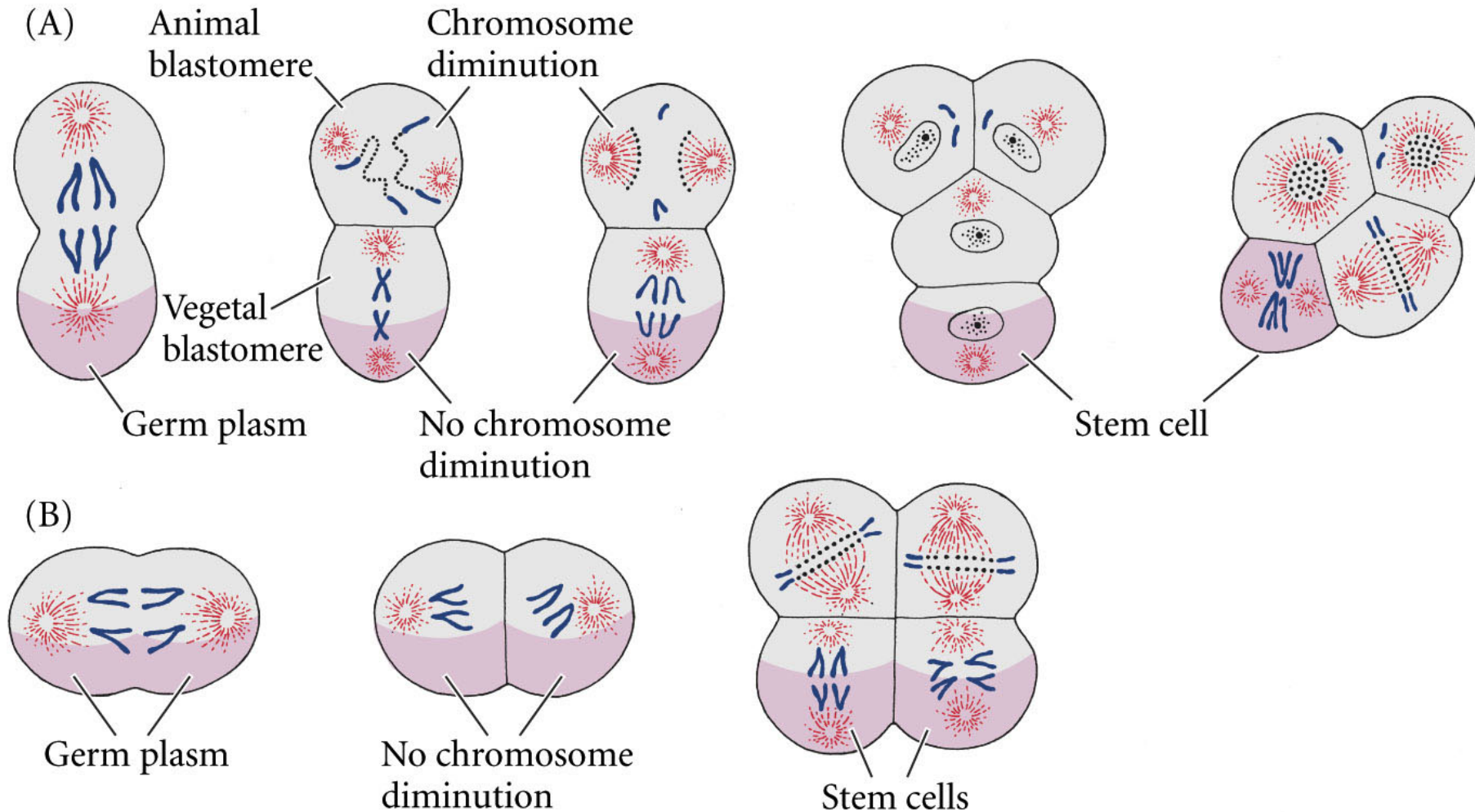


Linhagem germinativa e gametogênese em nemátoides



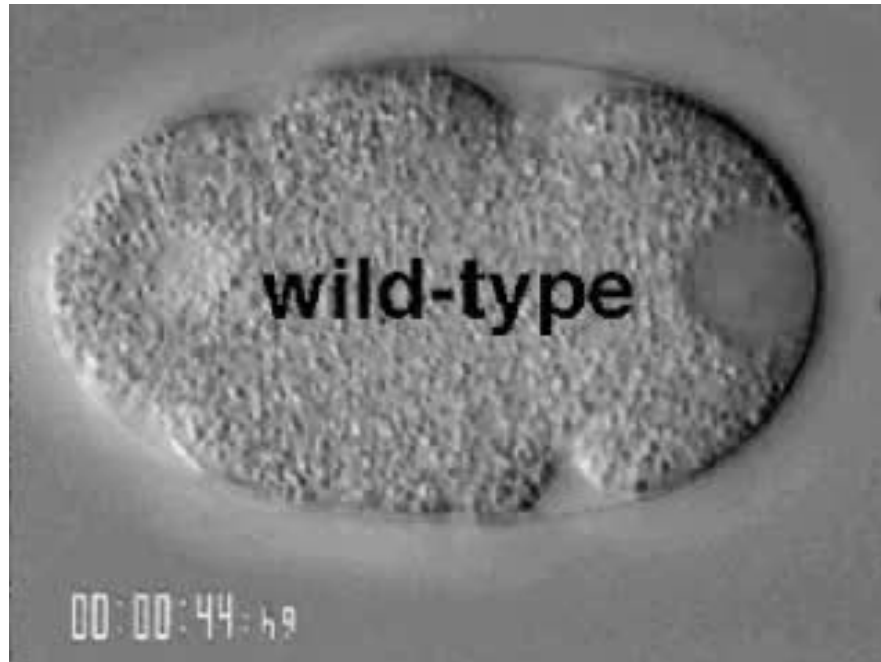
IntroFig1

Distribuição do plasma germinativo na clivagem do nematóide *Parascaris*

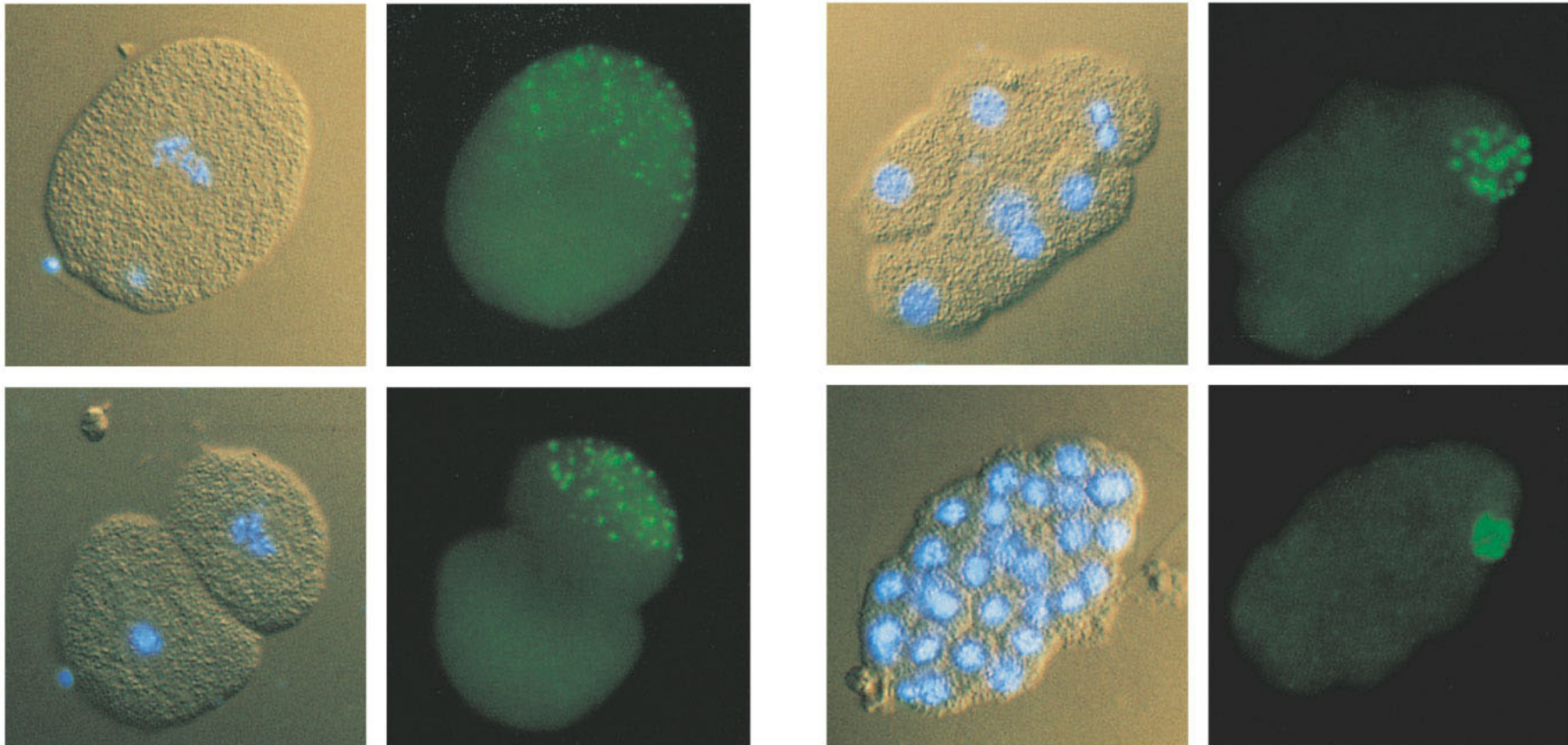


Nem todos os nematóides sofrem redução cromossômica!

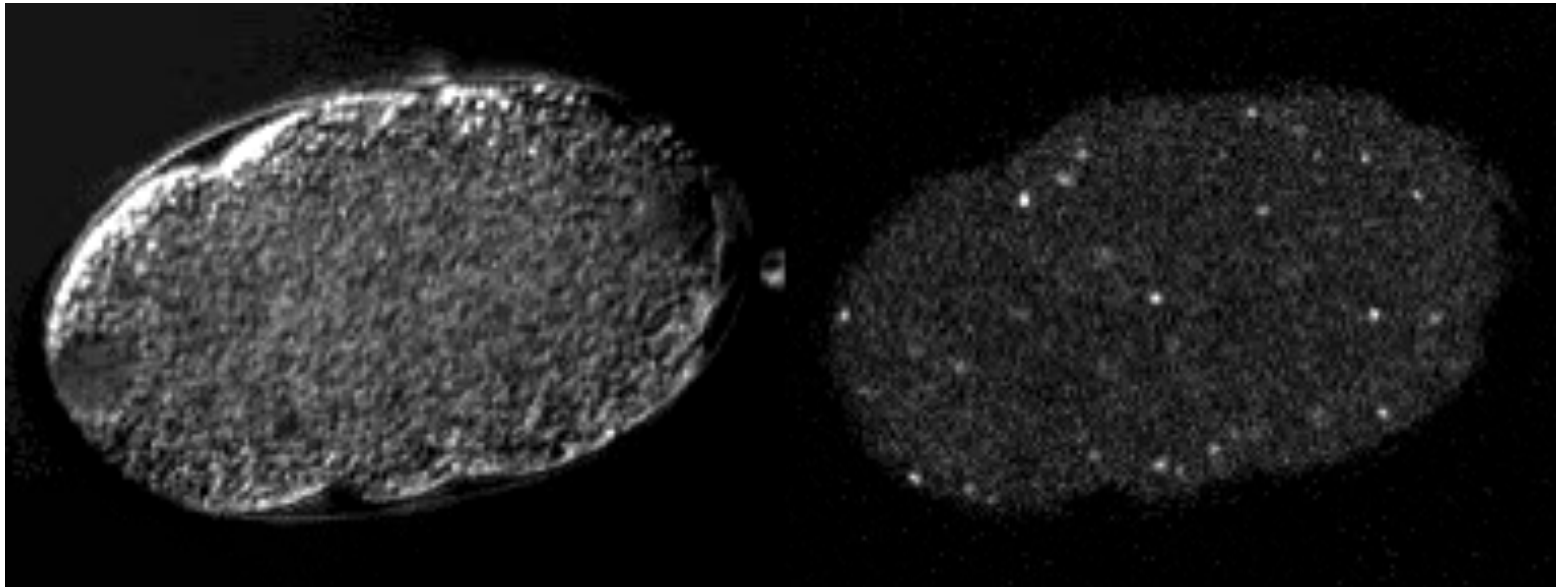
Nem todos os nematóides sofrem redução cromossômica



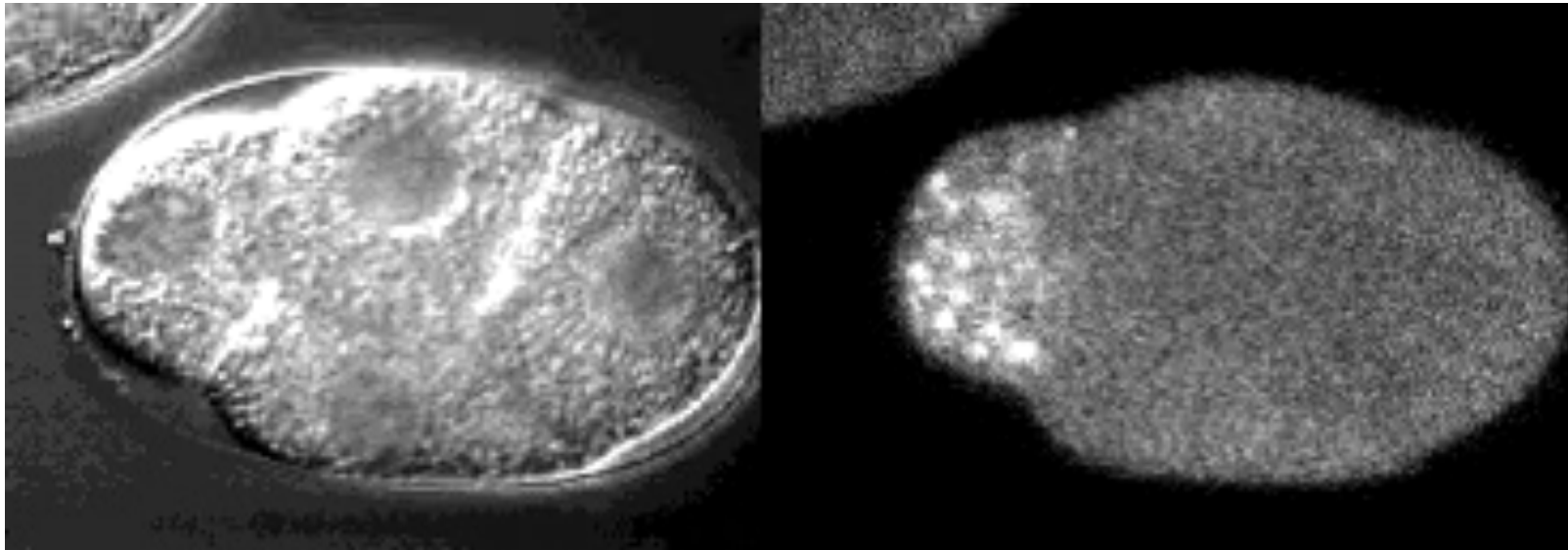
Segregation of the P-granules into the germ line lineage of the *C. elegans* embryo



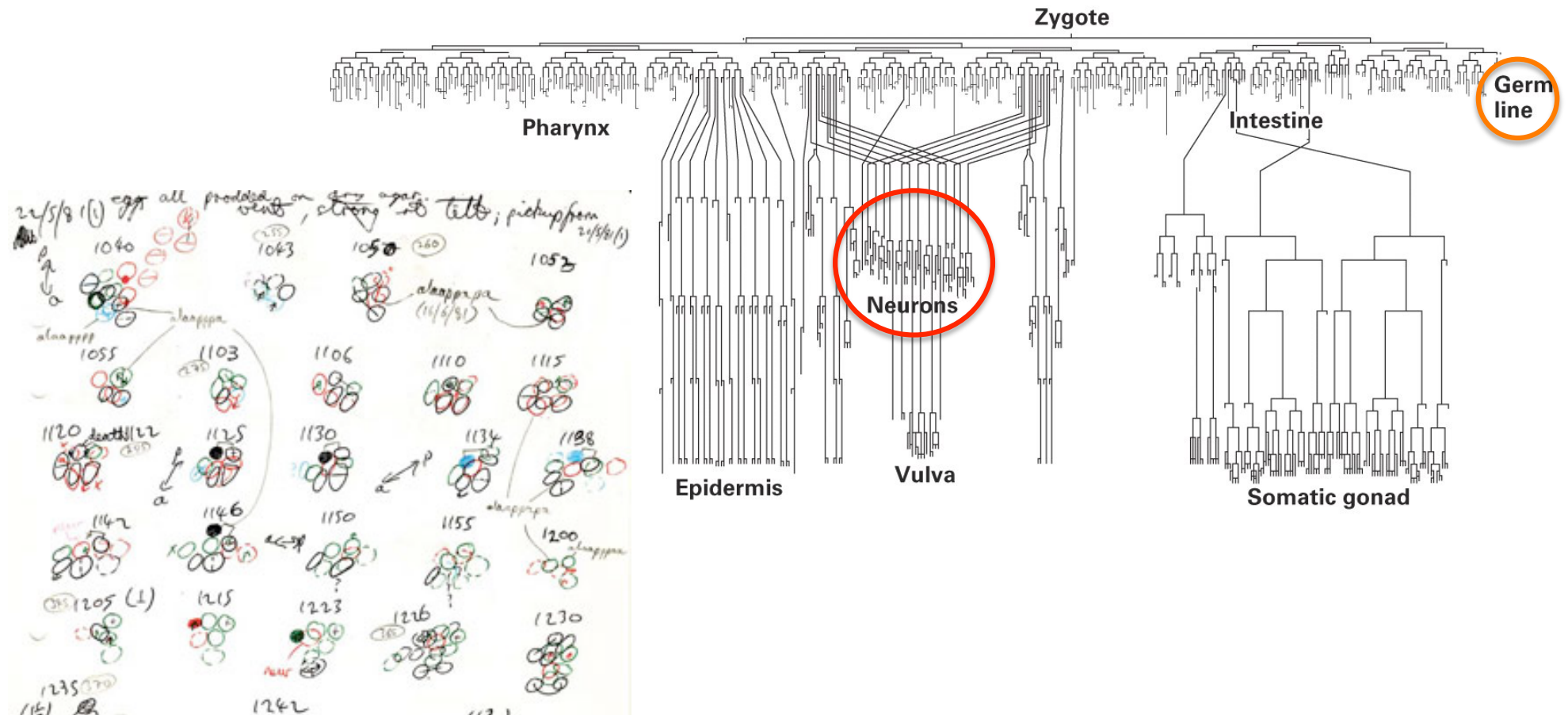
P-Granule Migration in *C. elegans*: First Division



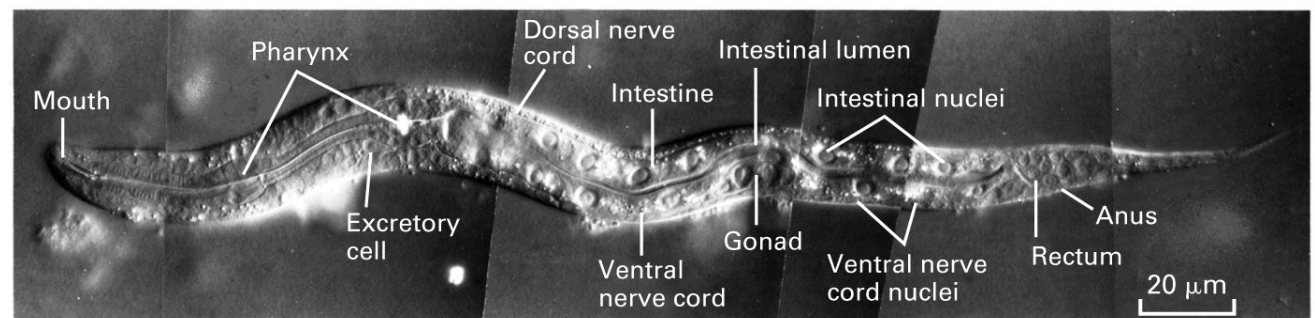
P-Granule Migration in *C. elegans*: Third Division



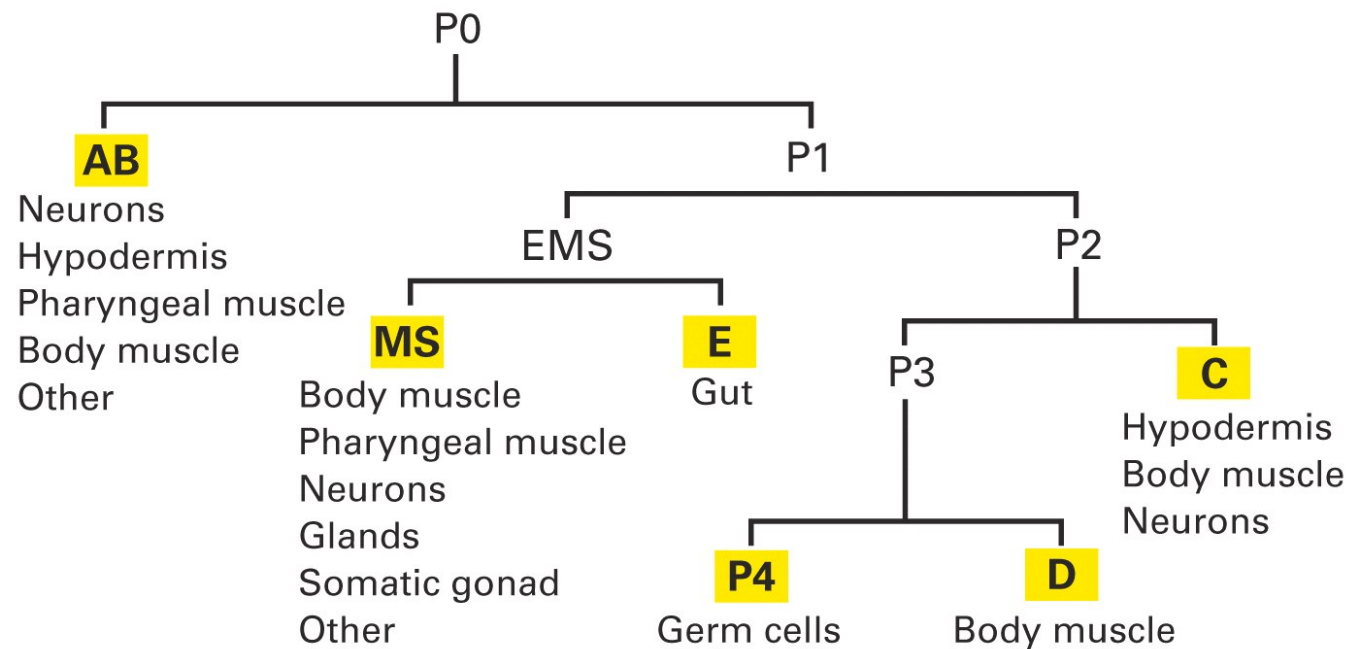
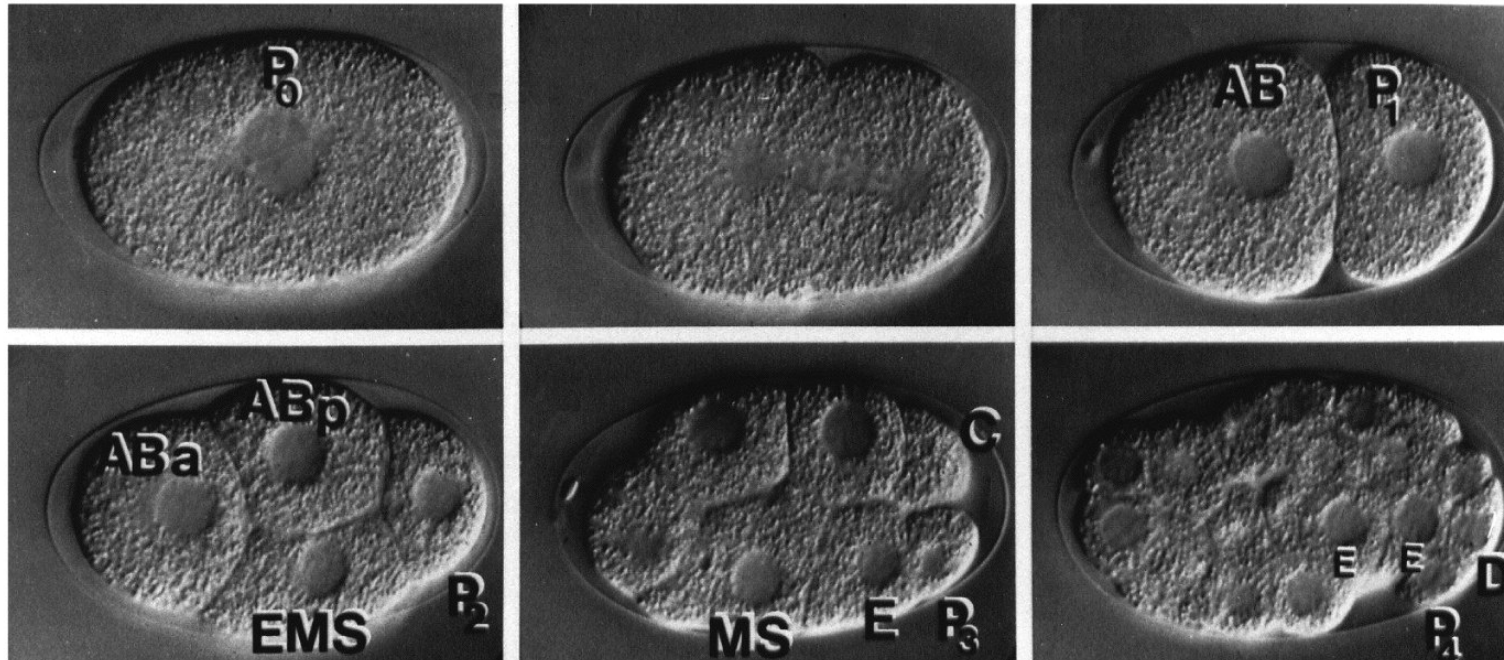
A linhagem germinativa é determinada muito cedo no desenvolvimento de *C. elegans*



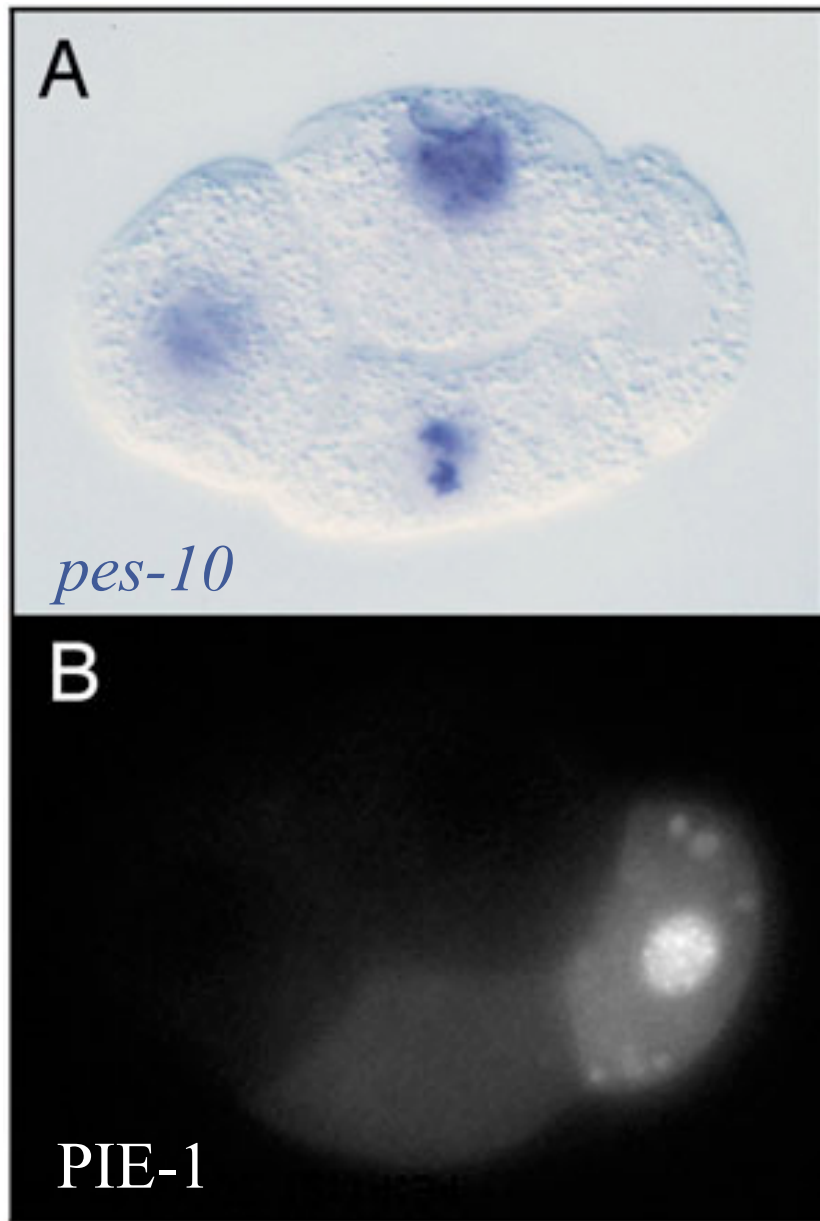
John Sulston



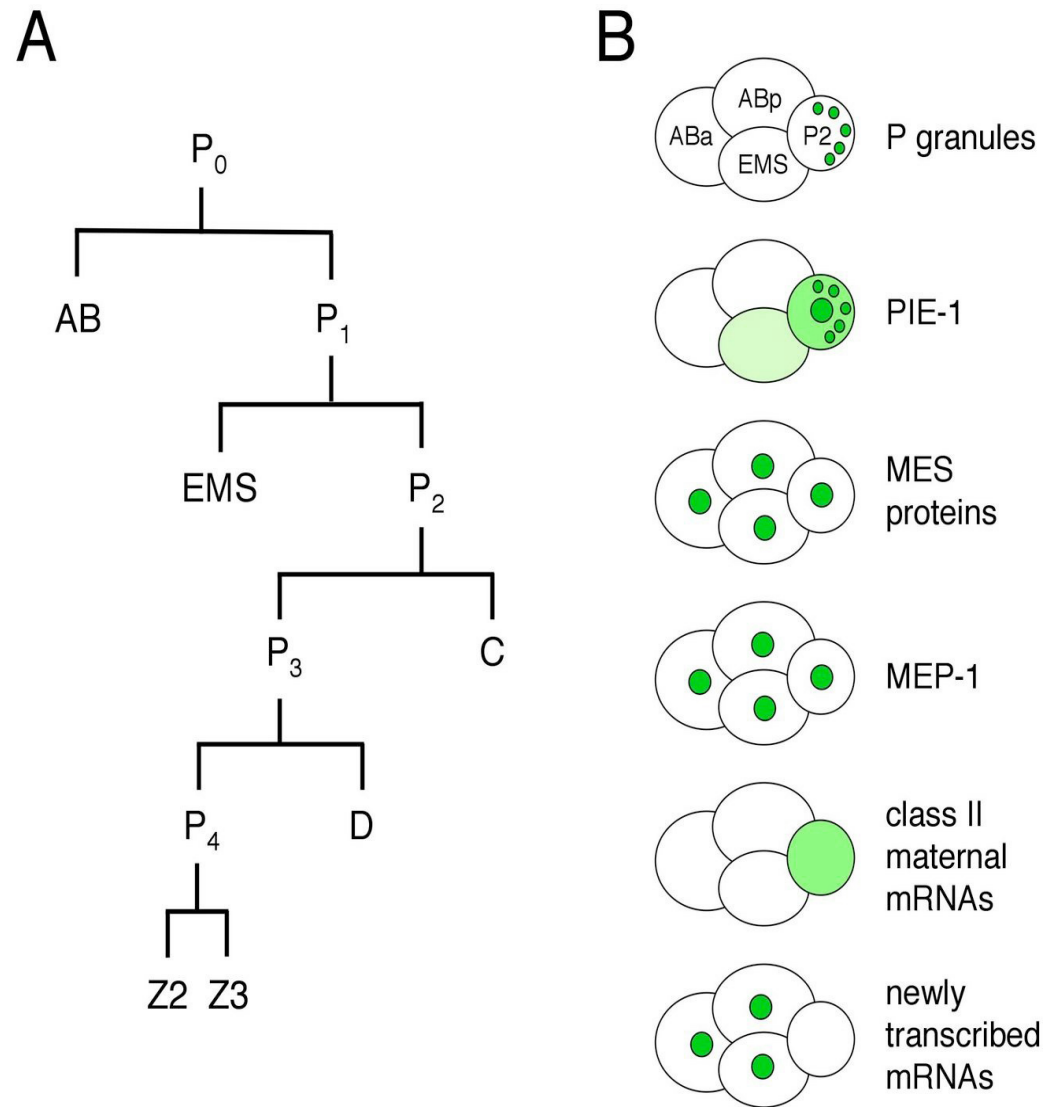
P4 dá origem as células germinativas primordiais (PGCs)



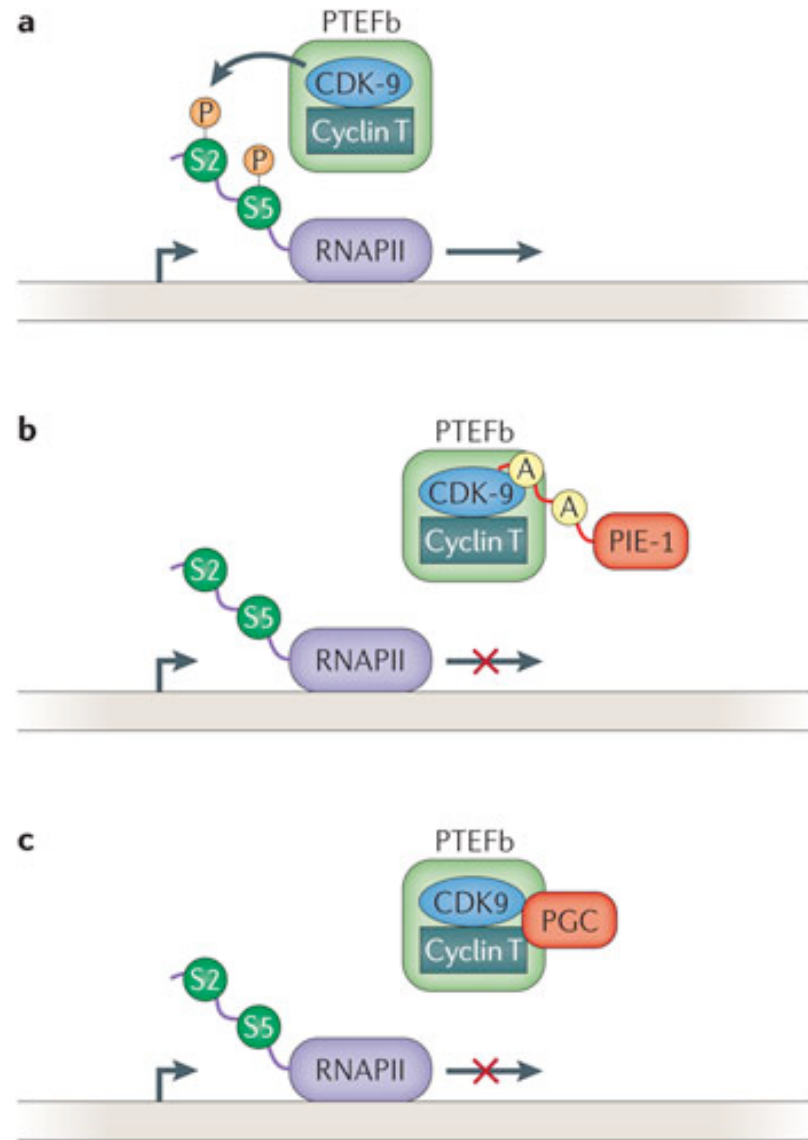
Inibição da transcrição em precursores das células germinativas de *C. elegans*



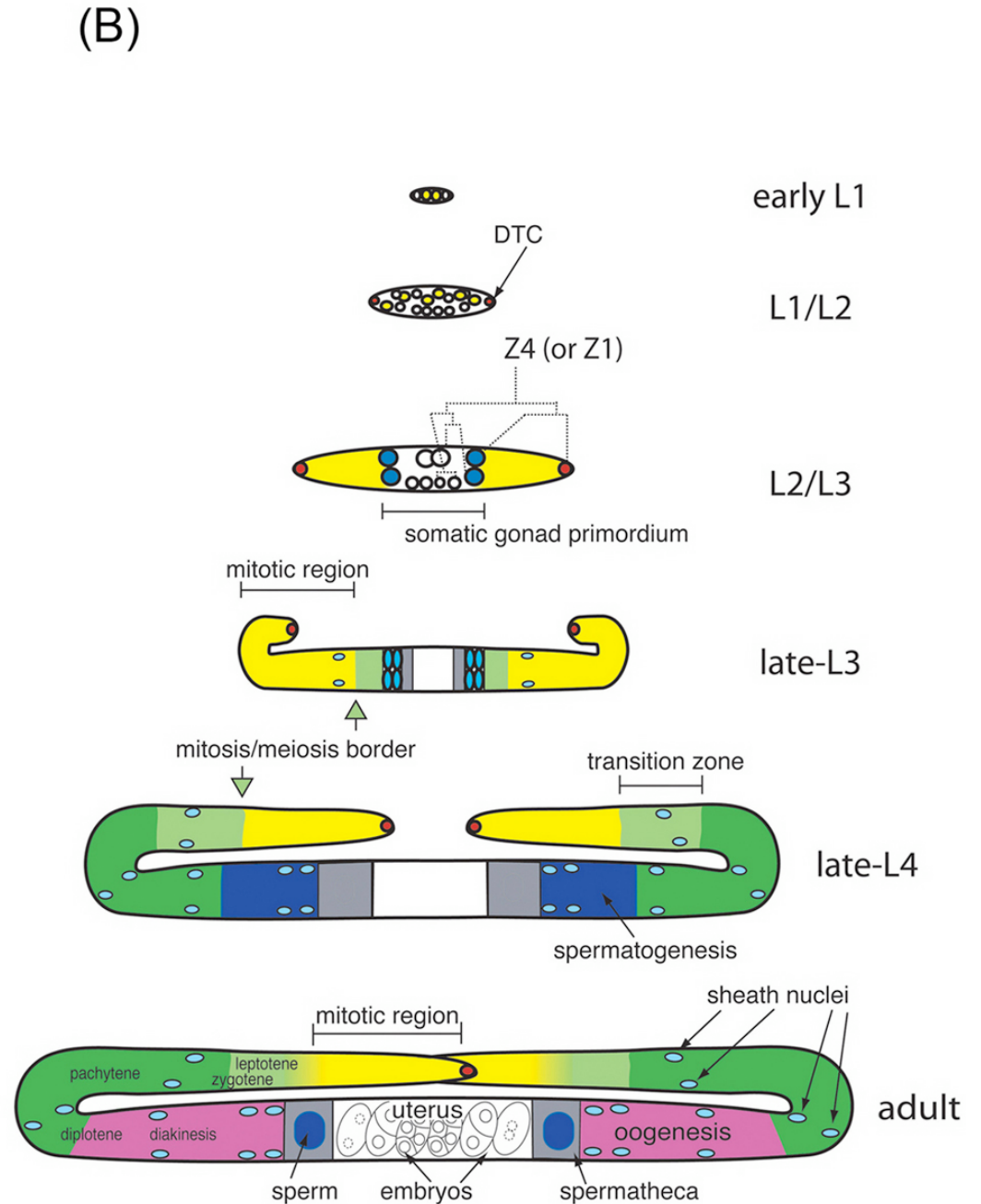
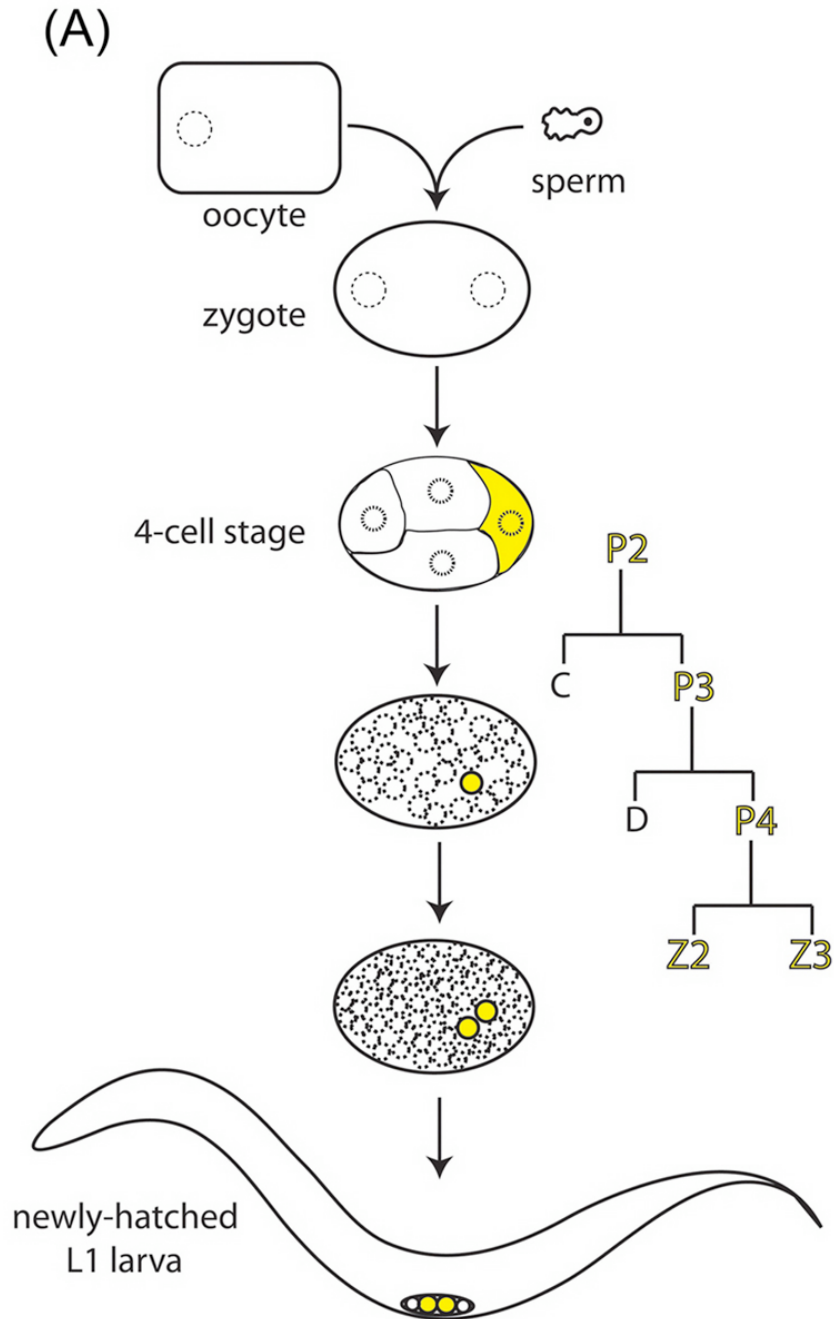
G. Seydoux



Inibição da transcrição

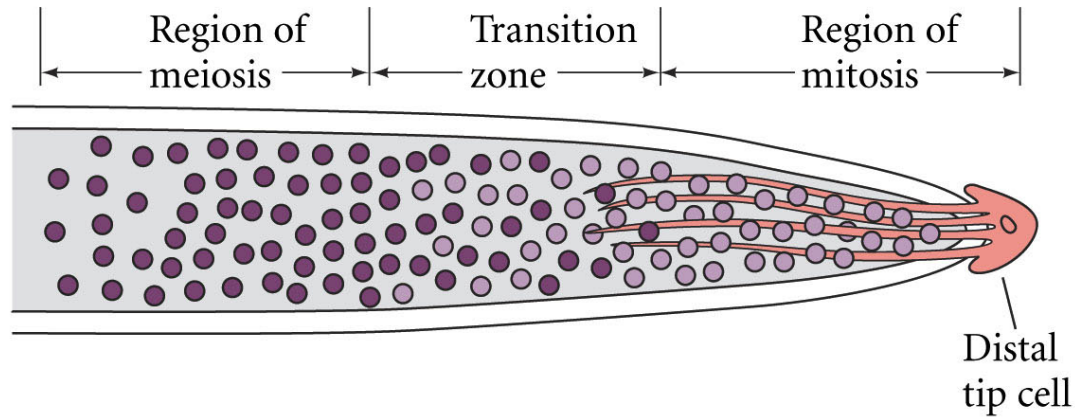


Linhagem germinativa de *C. elegans*

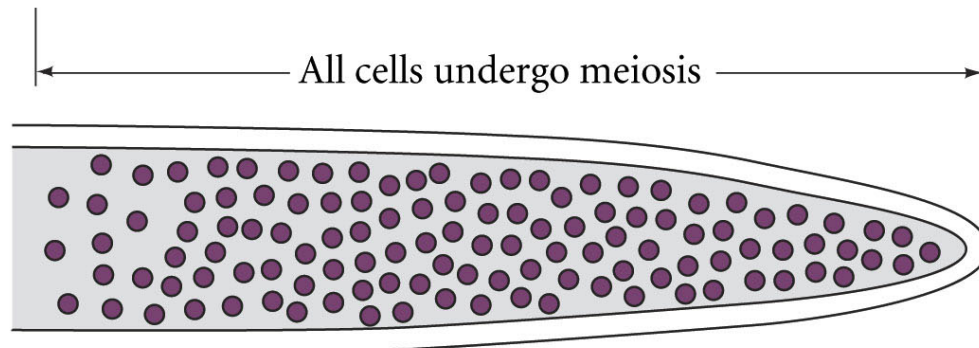


Regulação da decisão de mitose-meiose pela ponta distal em *C. elegans*, ovotestis celular (Parte I)

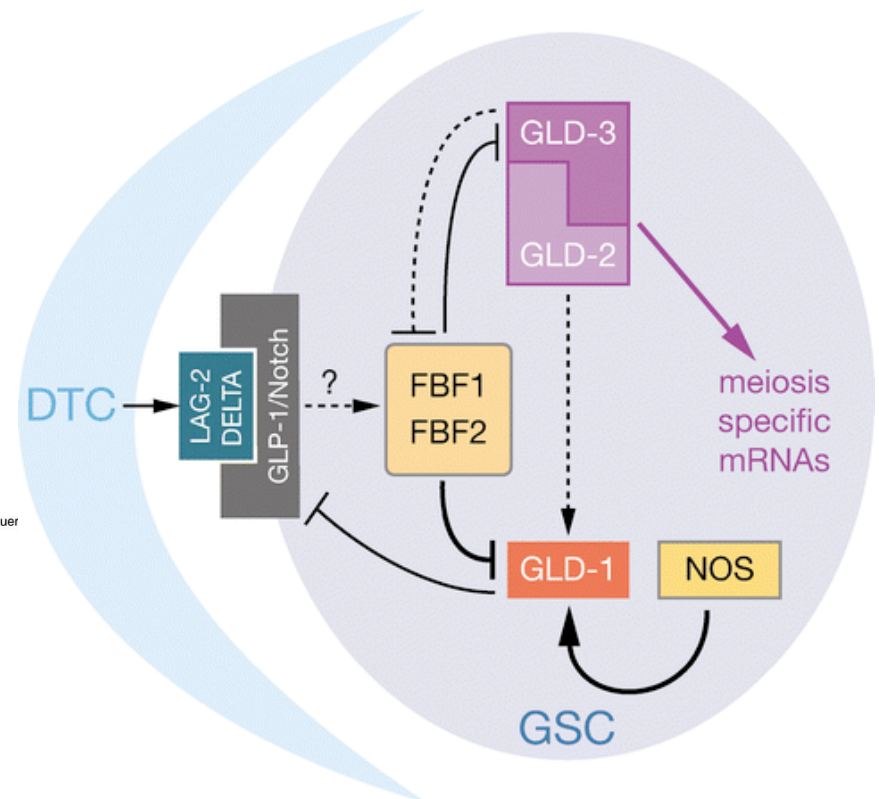
(A) Intact gonad



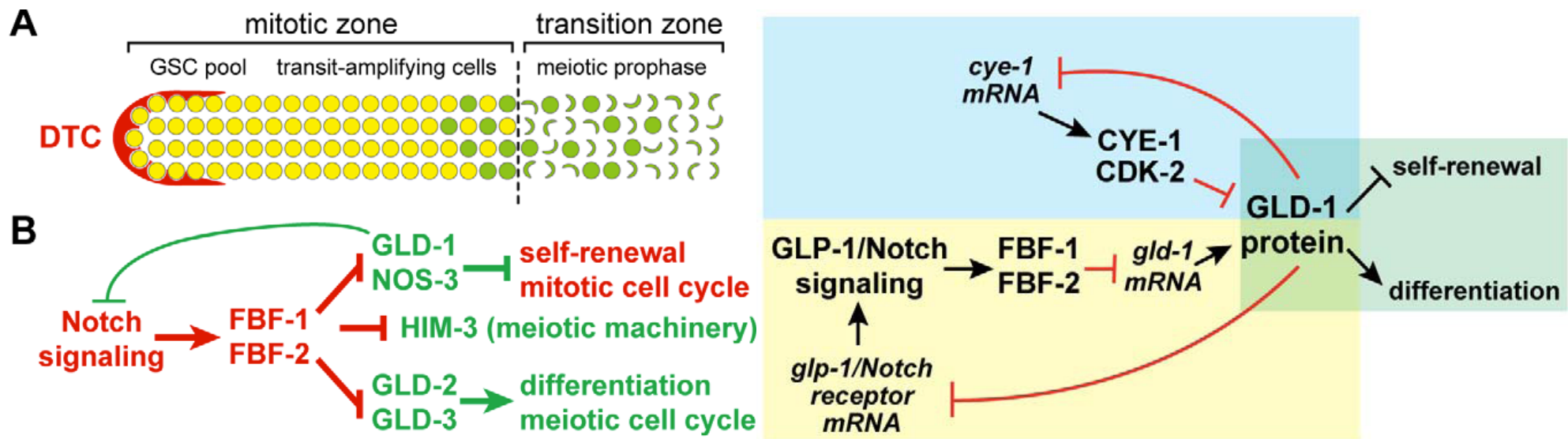
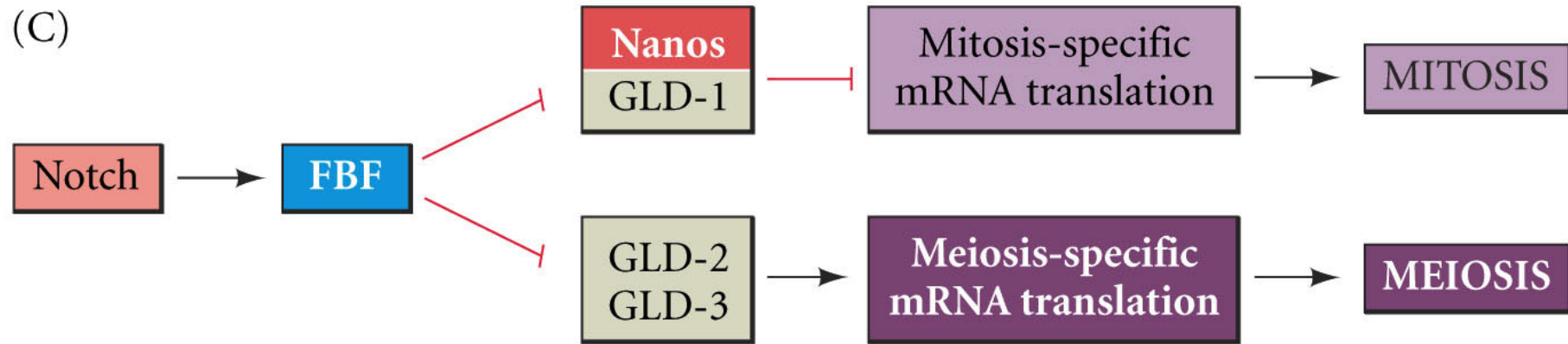
(B) Distal tip cell removed or *glp-1* mutation



DEVELOPMENTAL BIOLOGY, Eighth Edition, Figure 19.19 (Part 1) © 2006 Sinauer

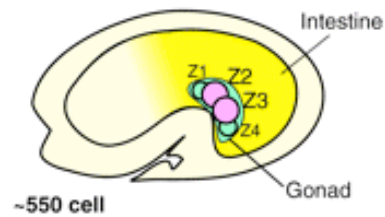
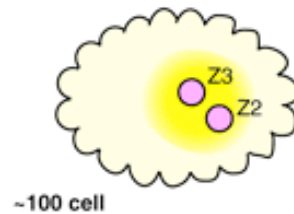
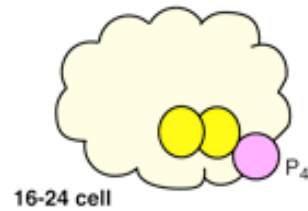
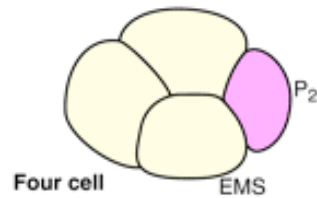
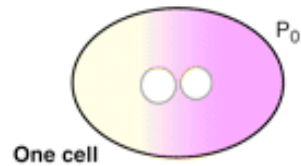


Regulação da decisão de mitose-meiose pela ponta distal em *C. elegans*, ovotestis celular (Parte II)

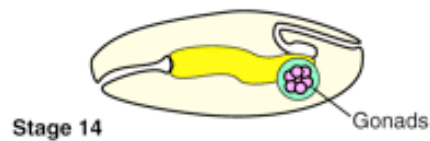
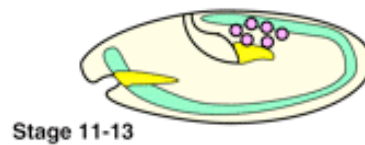
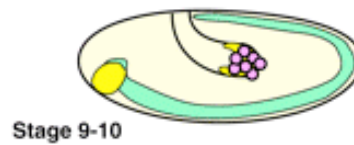
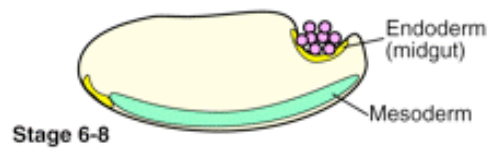
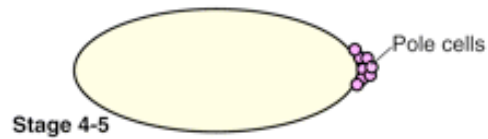
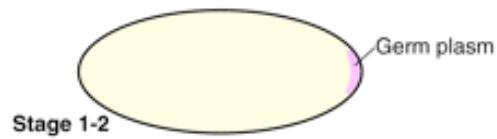


Formas de determinação das células germinativas em modelos animais

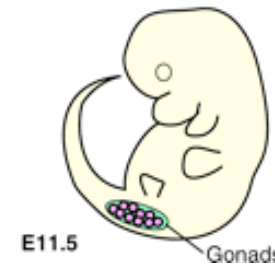
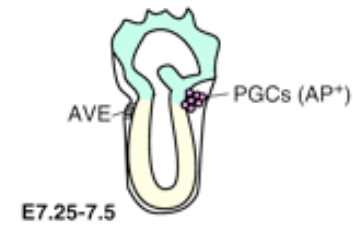
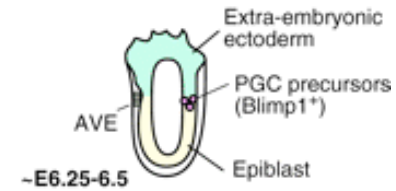
A *C. elegans*



B *Drosophila*

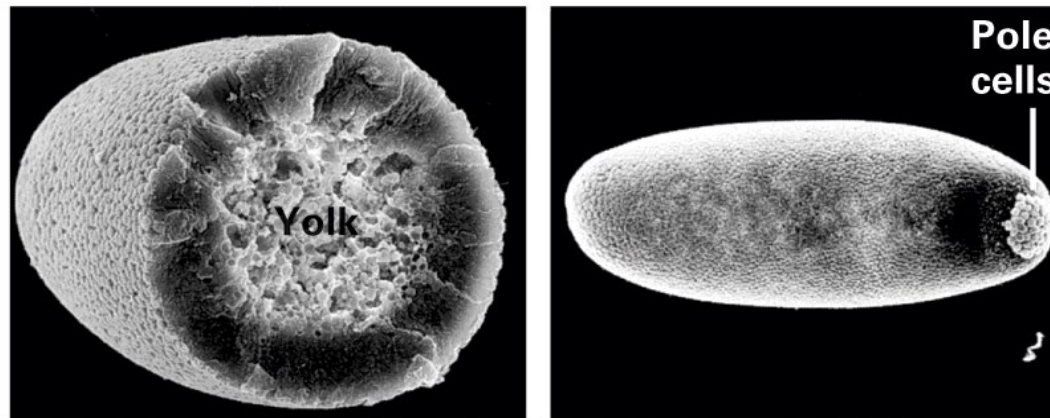
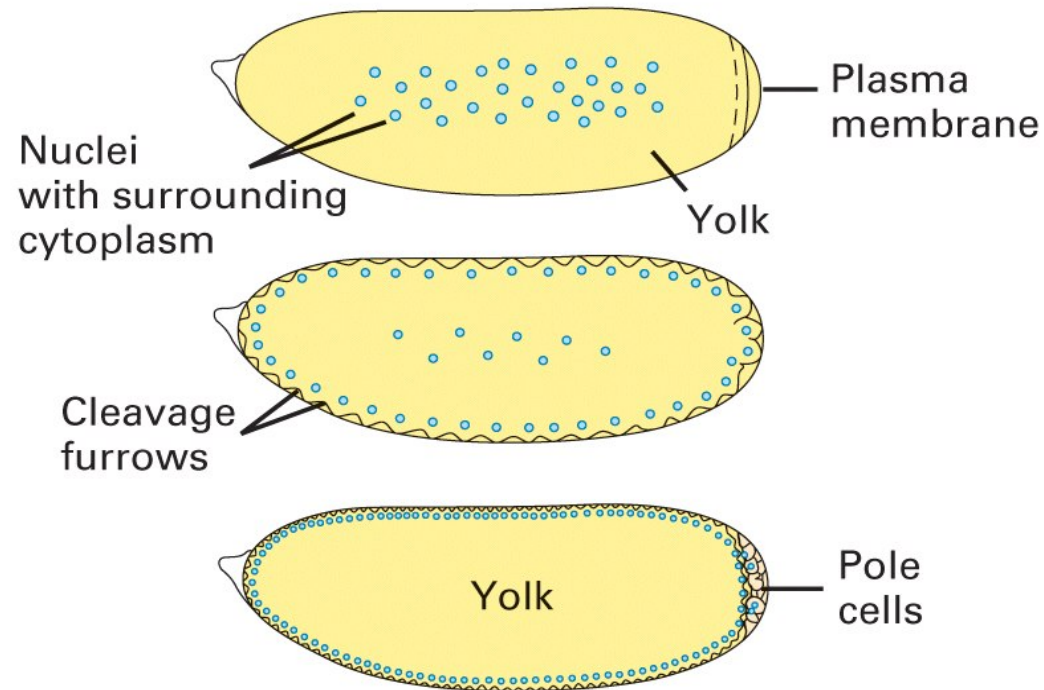


C Mouse



Nakamura & Seydoux, 2008

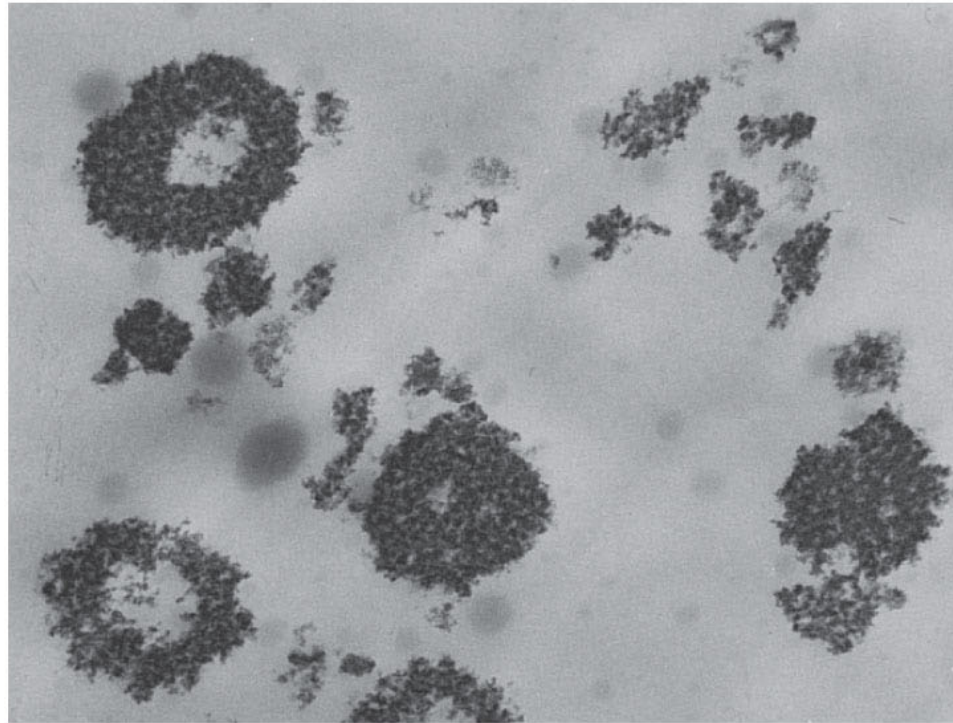
(a) NUCLEAR DIVISION AND MIGRATION



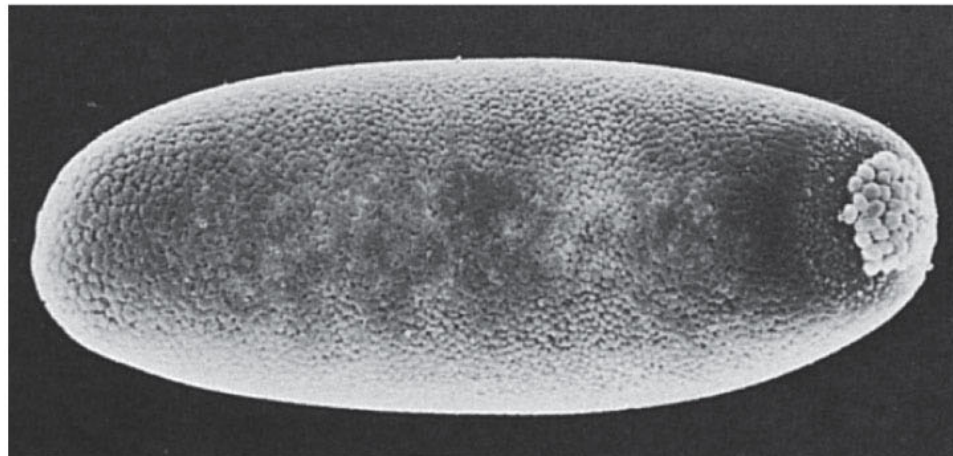
Syncytial blastoderm

O plasma polar de *Drosophila*

(A)

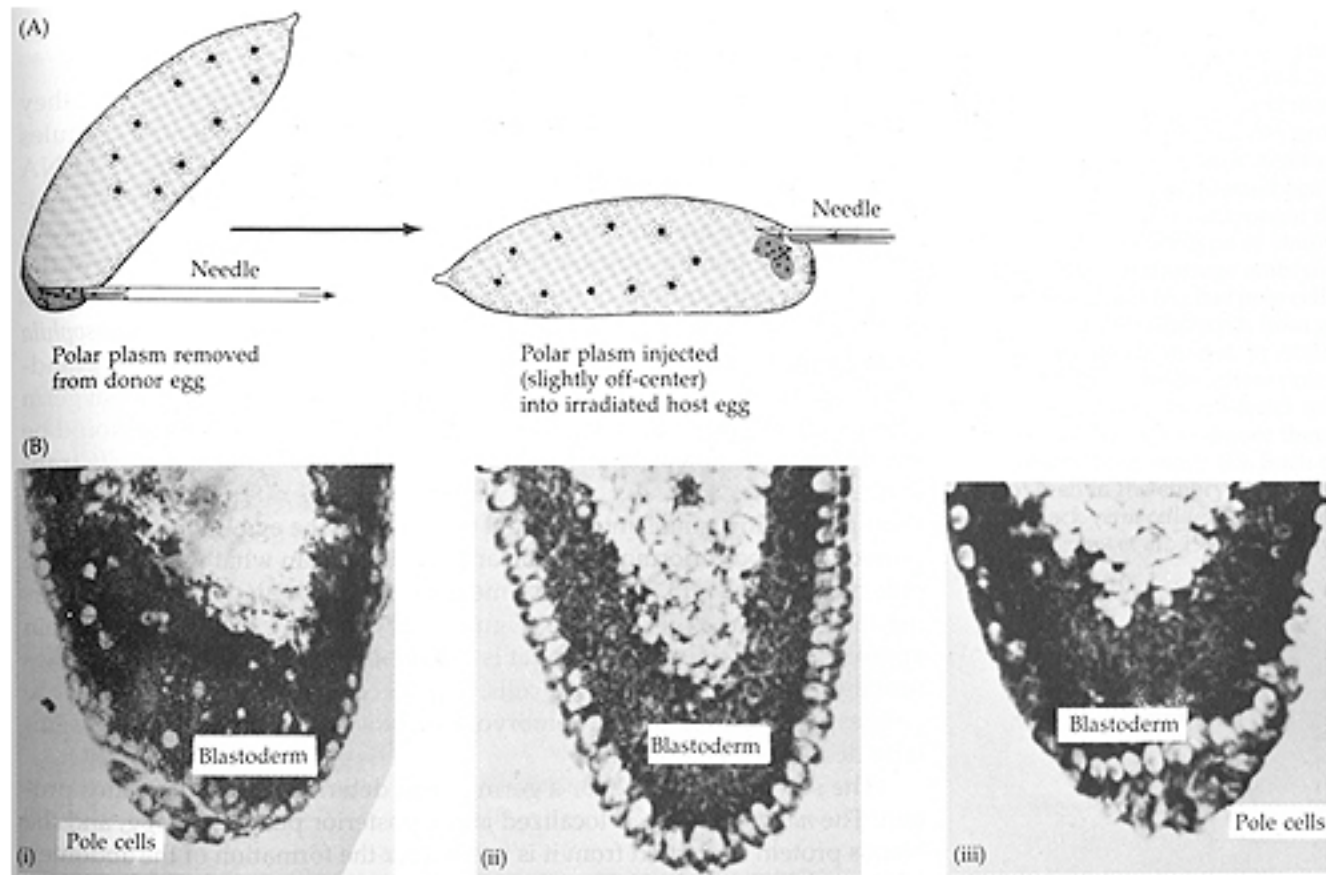


(B)



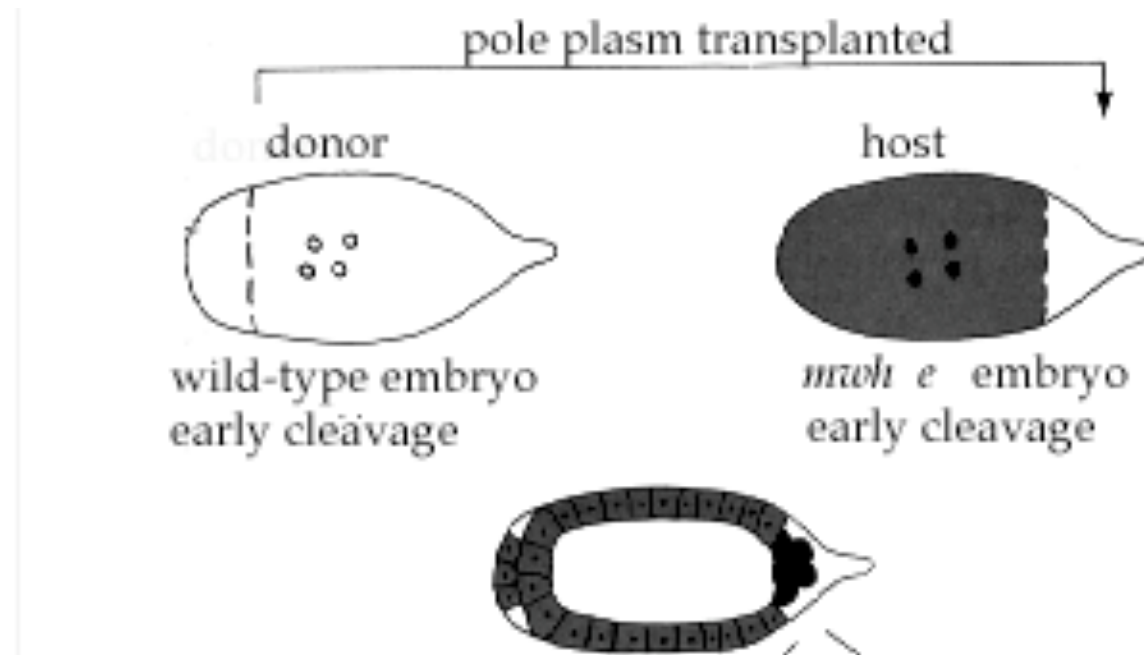
Como você poderia testar a importância do germoplasma (plasma polar) para a formação de células germinativas?

Experimento de Okada (1974):

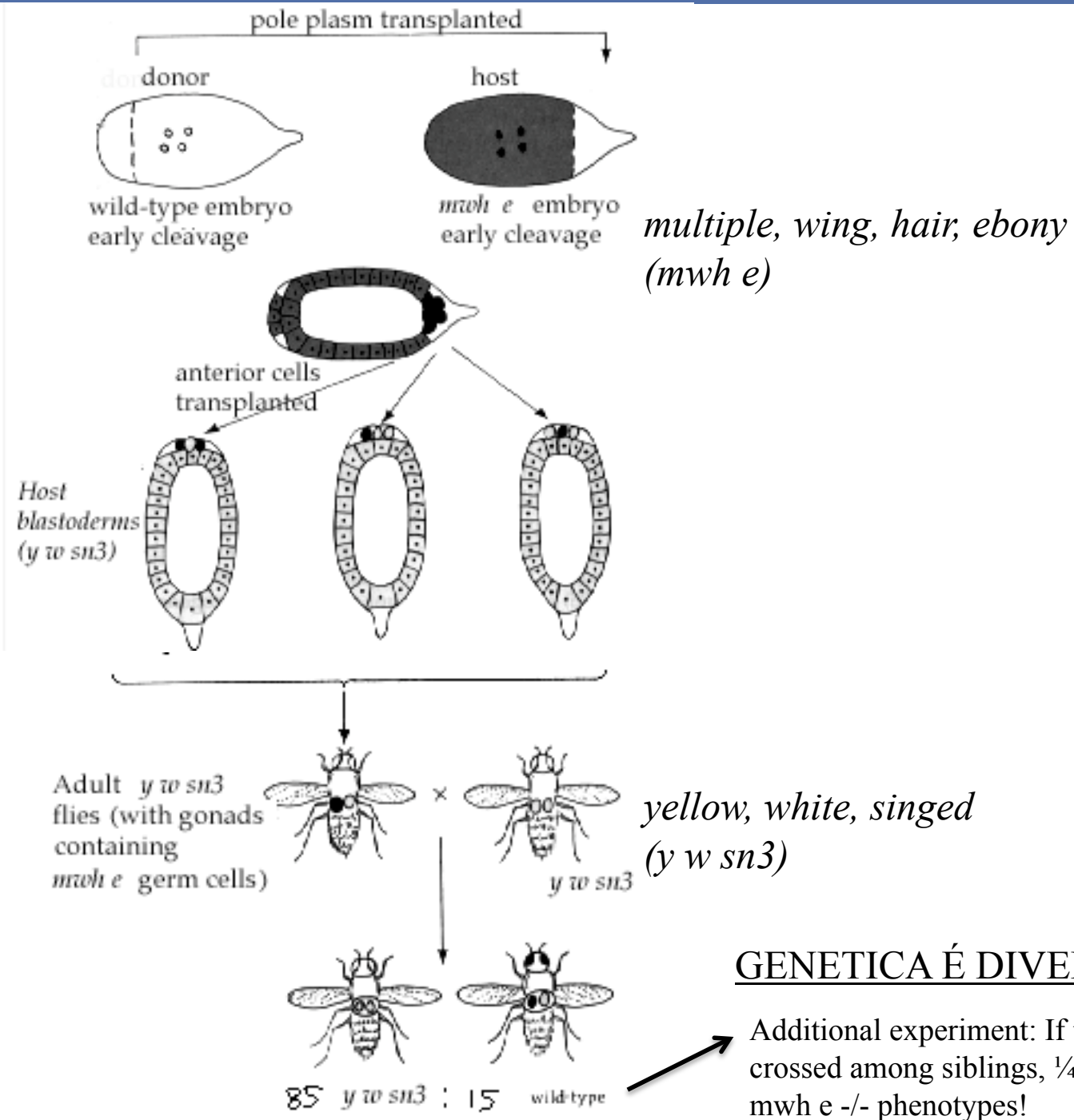


experimento de resgate

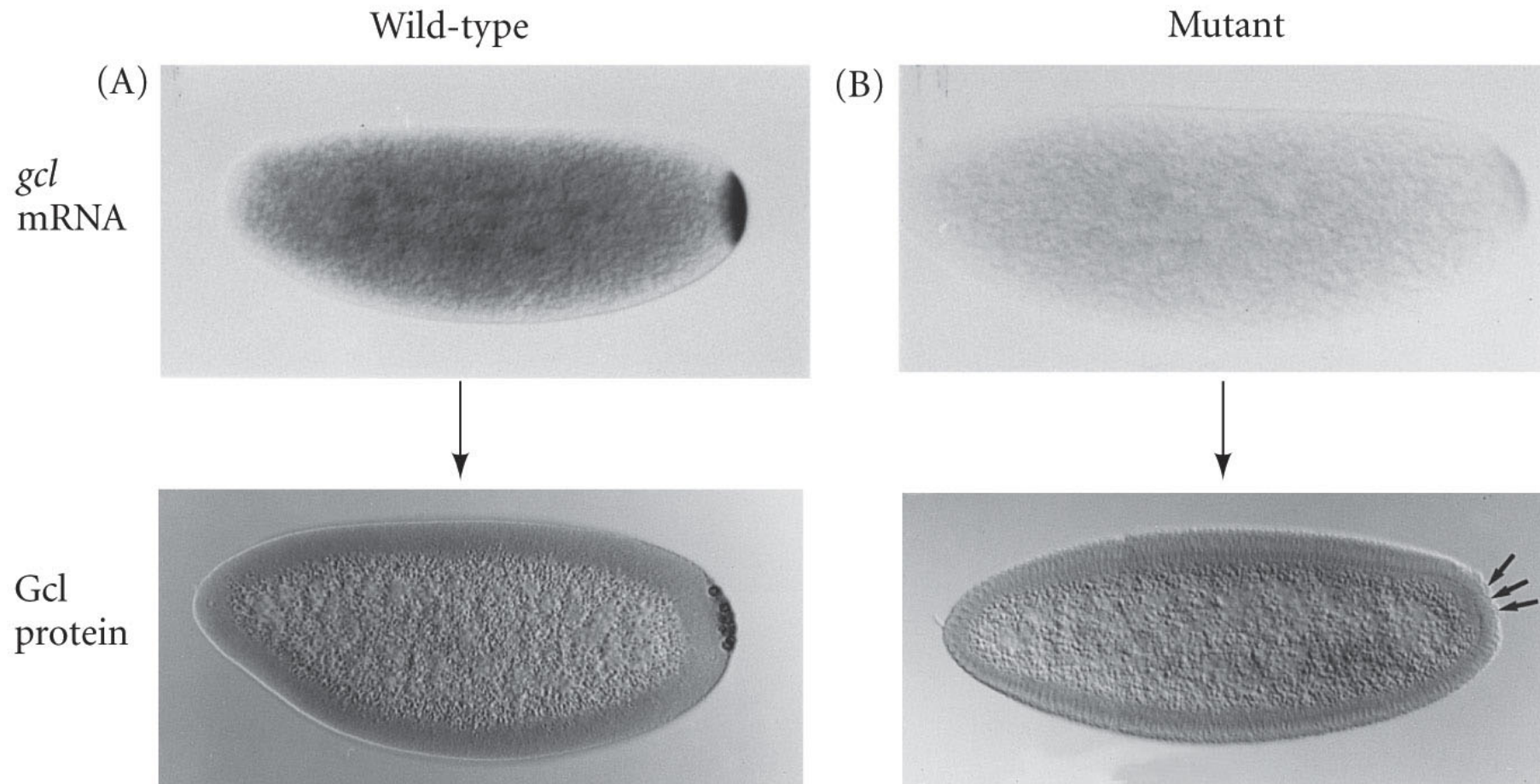
E cómo eu sé se o plasma germinativo é
SUFICIENTE para induzir células germinativas?



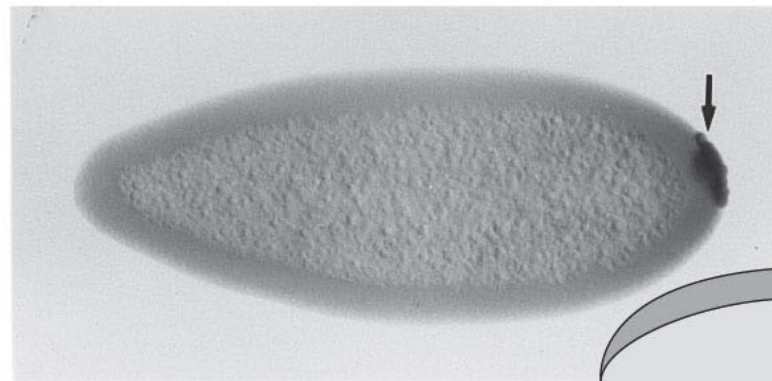
Experimento de Karl Illmensee e Anthony Mahowald demonstra autonomia da região do plasma germinativo



Localização da expressão do gene *germ cell-less* na região posterior do zigoto e embrião

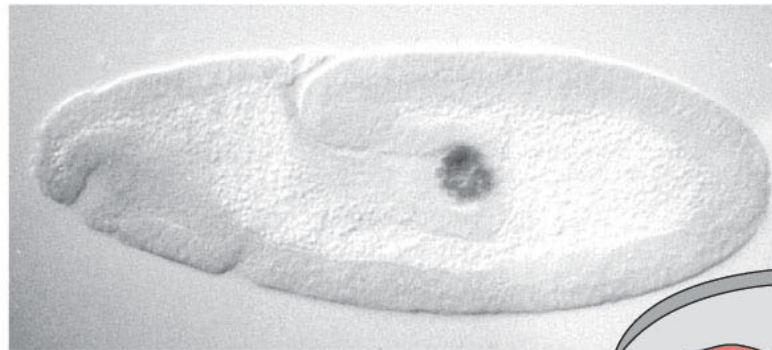
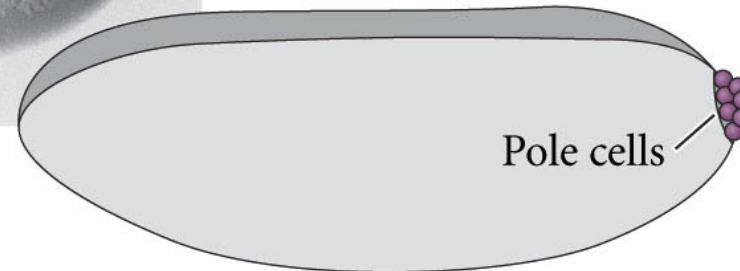


Migração das células germinativas no embrião de *Drosophila* (Parte I)



(A) *Vasa* probe labeling the pole plasm

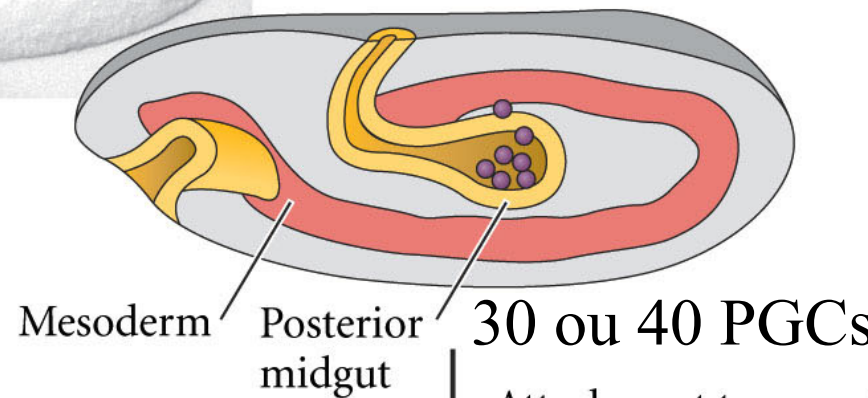
Cell movements of germ cells



(B)

Attachment to endoderm and migration through midgut

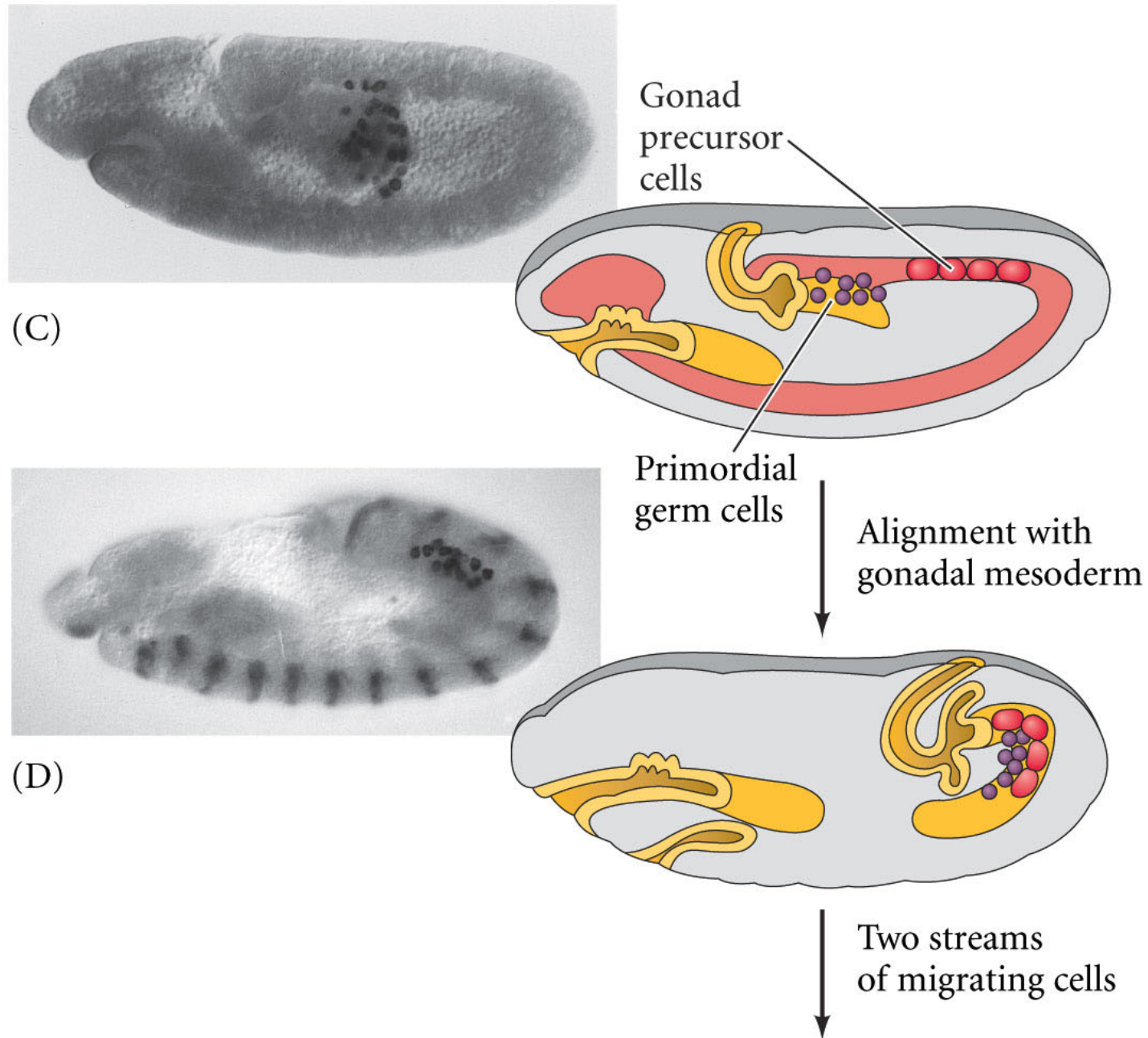
wunen
expressado na endoderme posterior
repele PGCs da endoderme



30 ou 40 PGCs

Attachment to mesoderm

Migração das células germinativas no embrião de *Drosophila* (Parte II)



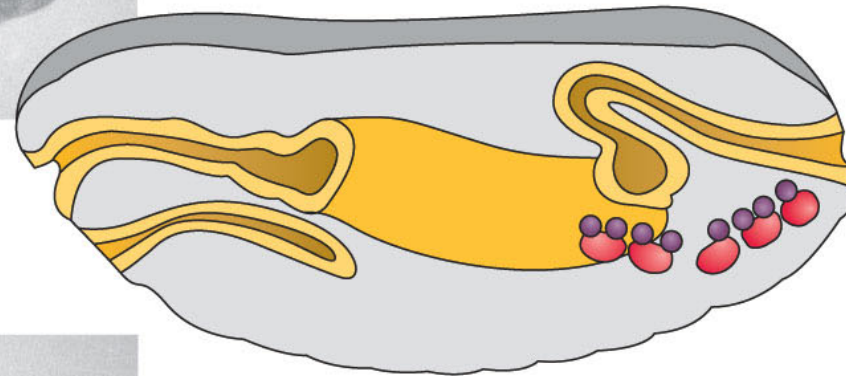
Hedgehog e *columbus* (expressados nas gônadas) atraem as PGC até as gônadas

Migração das células germinativas no embrião de *Drosophila* (Parte III)

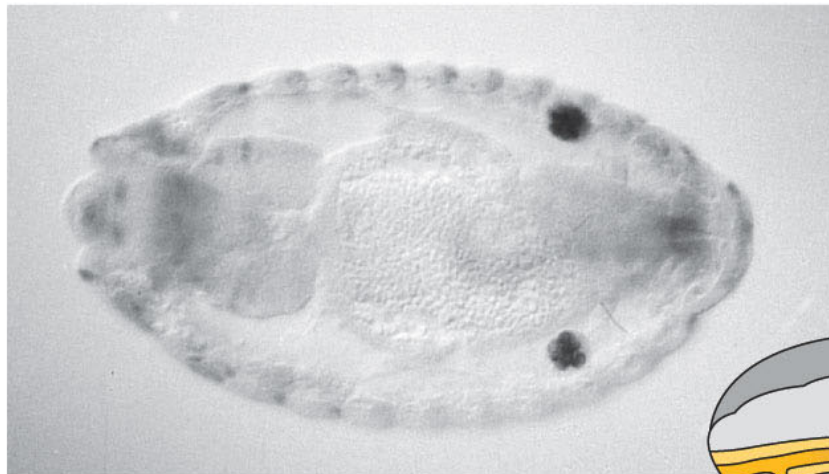


(E)

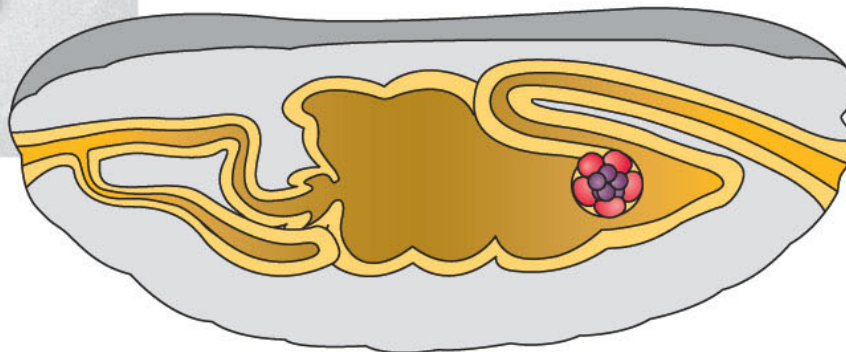
tin



Gonad
coalescence

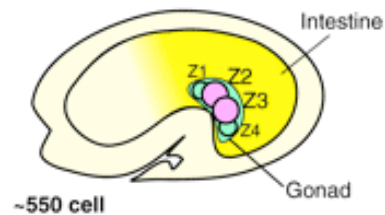
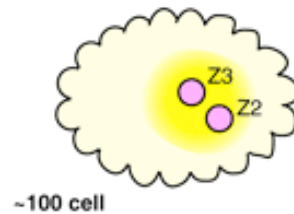
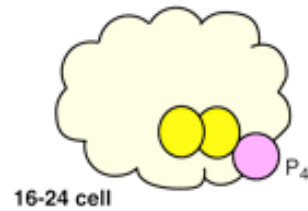
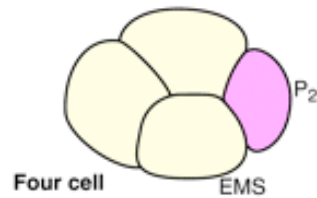
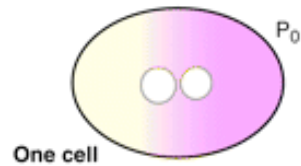


(F)

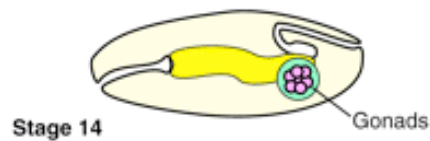
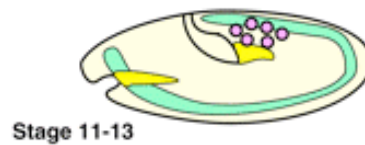
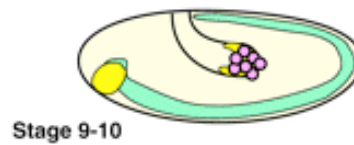
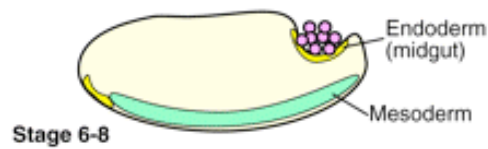
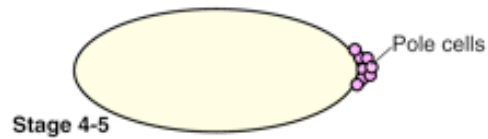
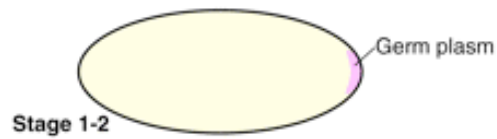


Formas de determinação das células germinativas em modelos animais

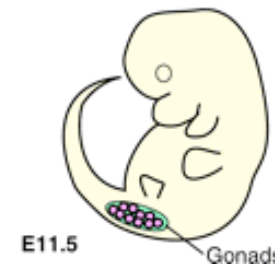
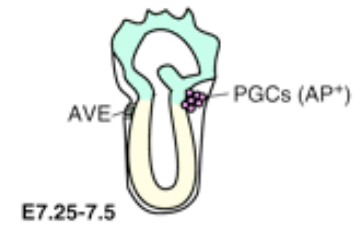
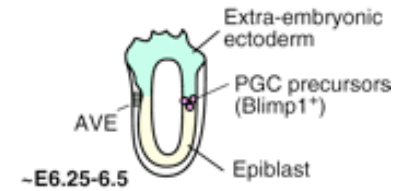
A *C. elegans*



B *Drosophila*

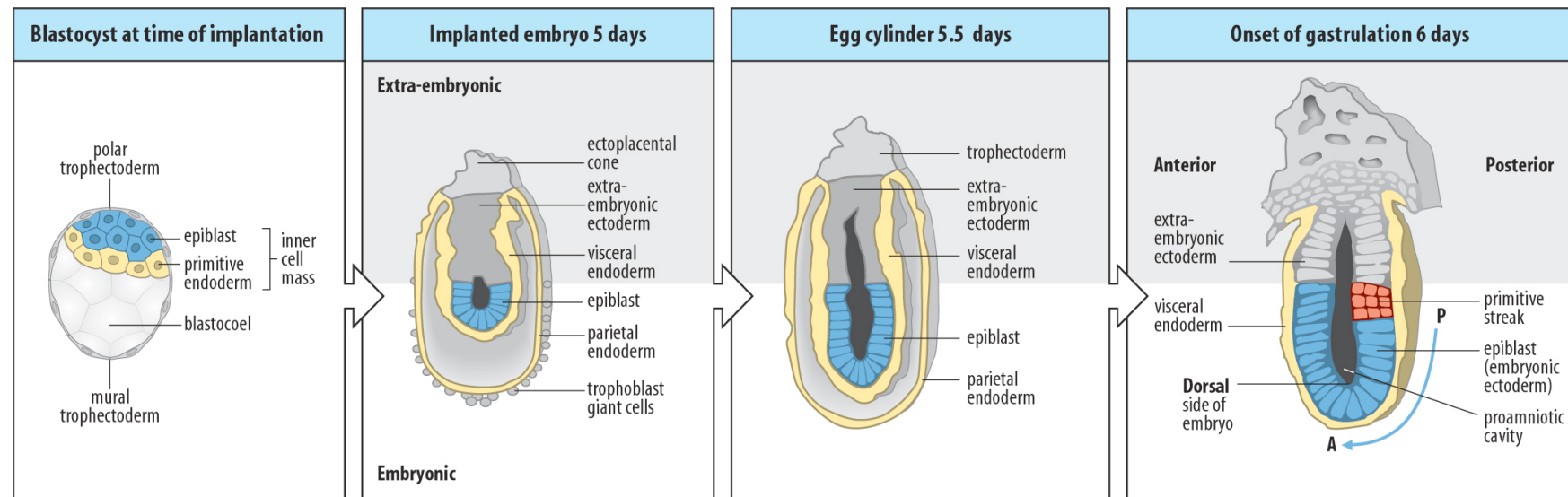


C Mouse

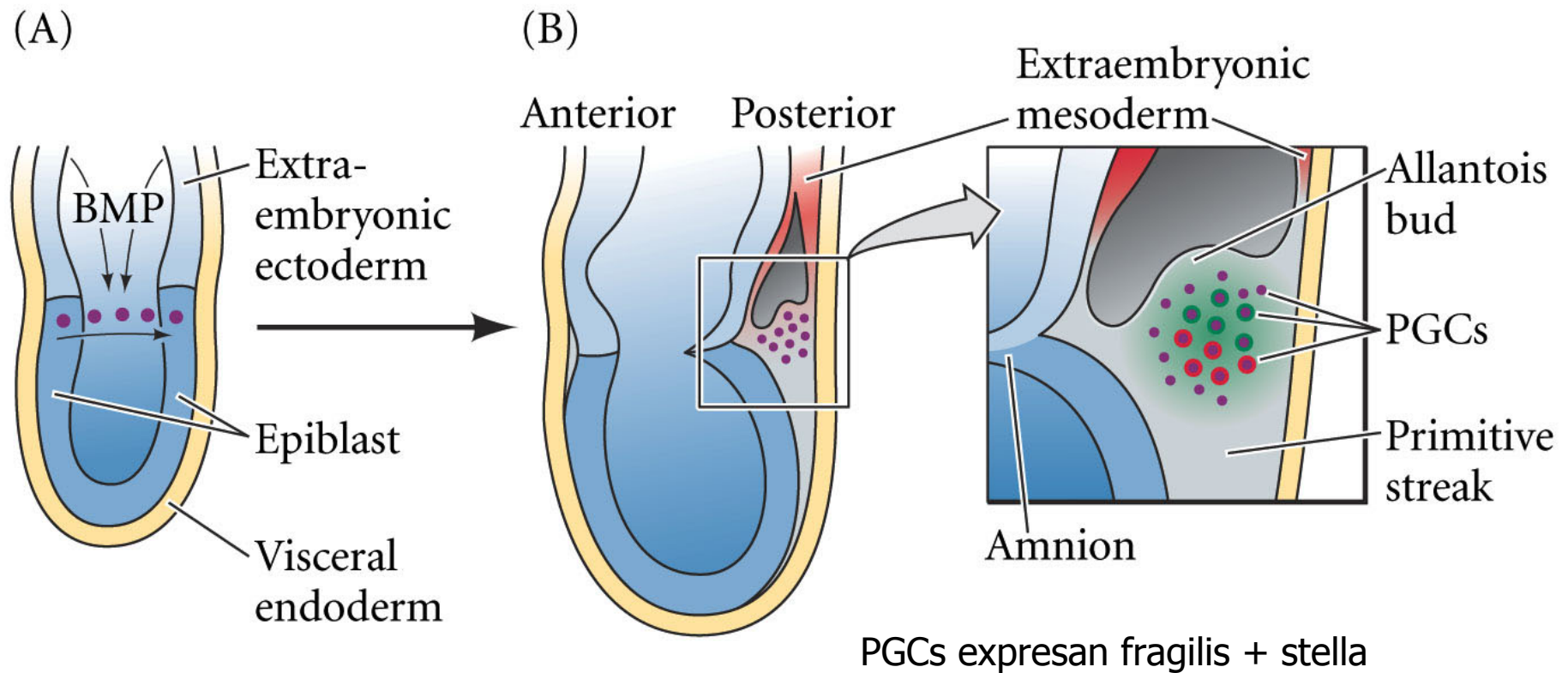


Nakamura & Seydoux, 2008

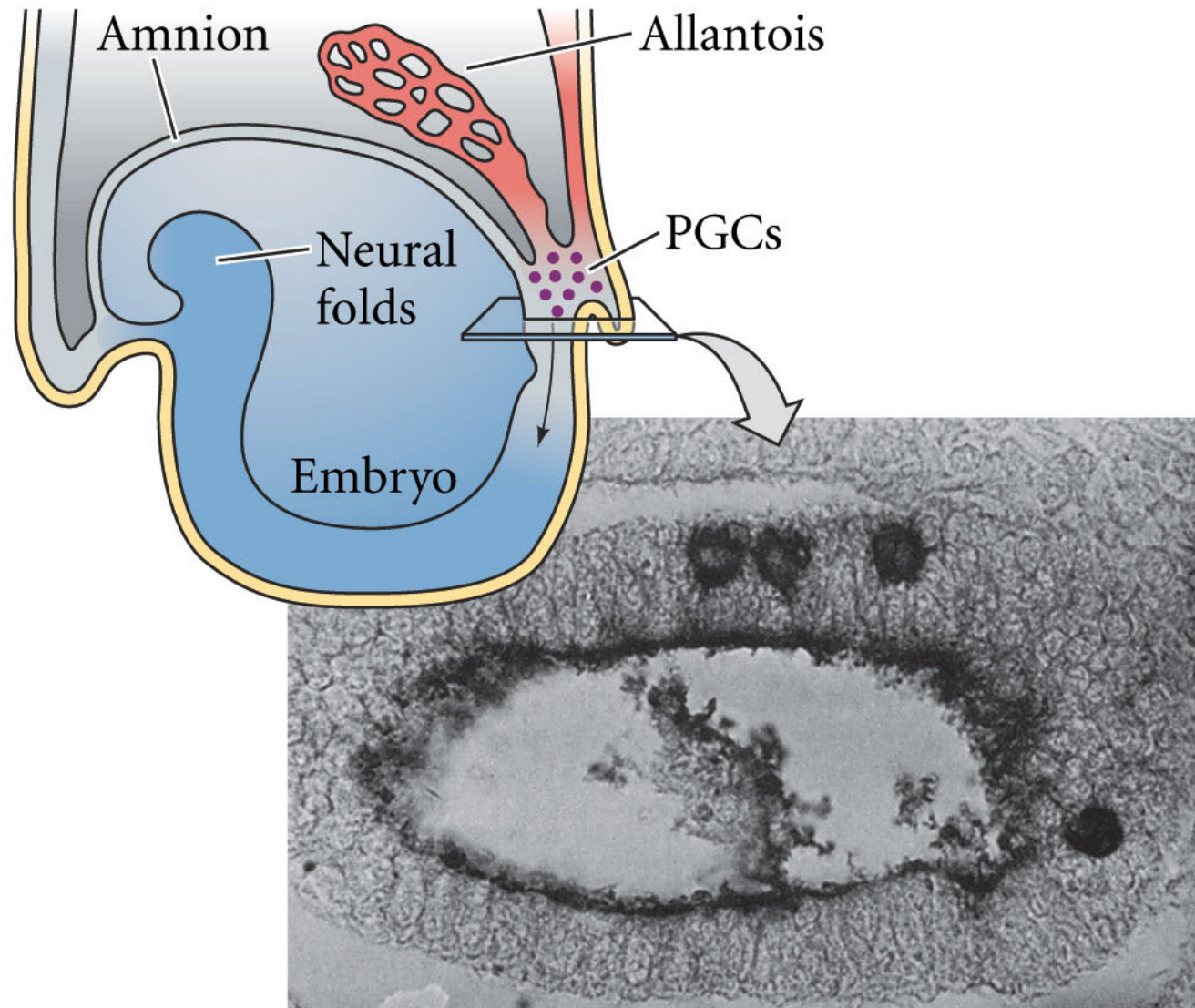
Desenvolvimento do camundongo



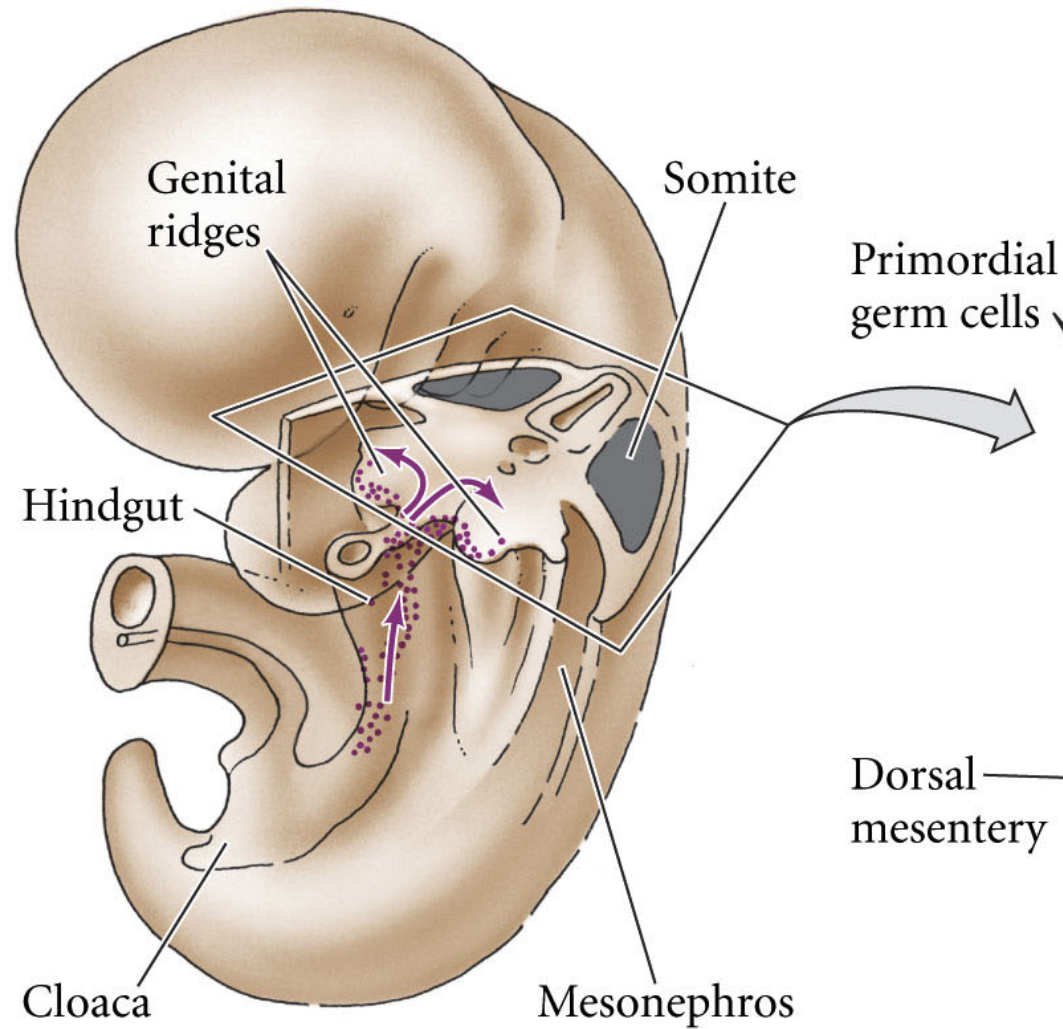
Especificação e migração das células germinativas primordiais em camundongo



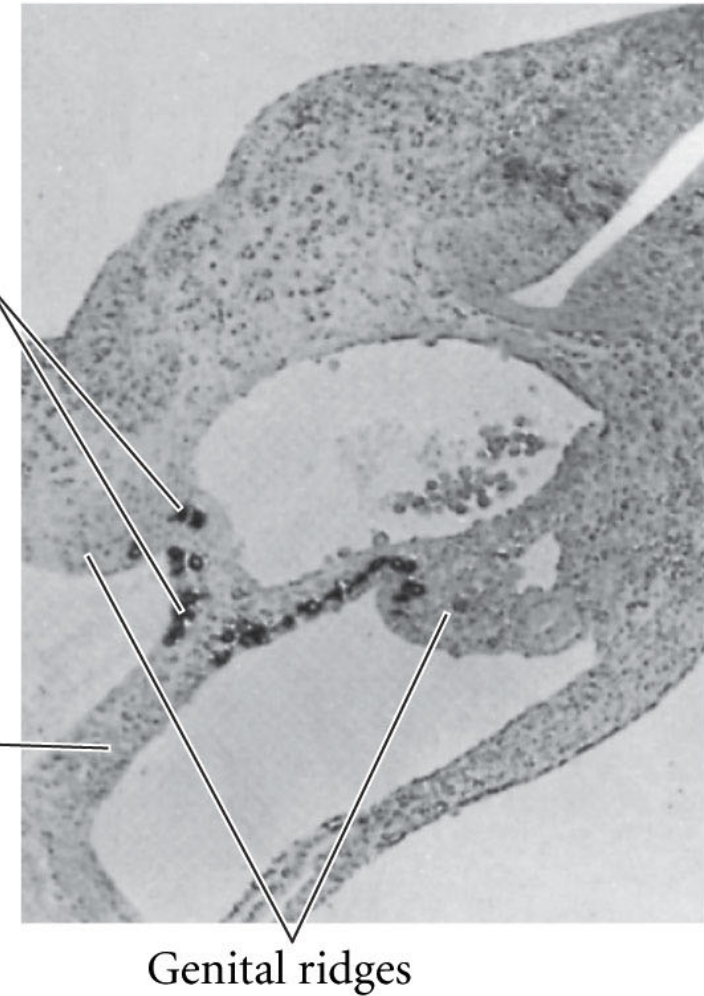
(A) Migration of
PGCs to endoderm



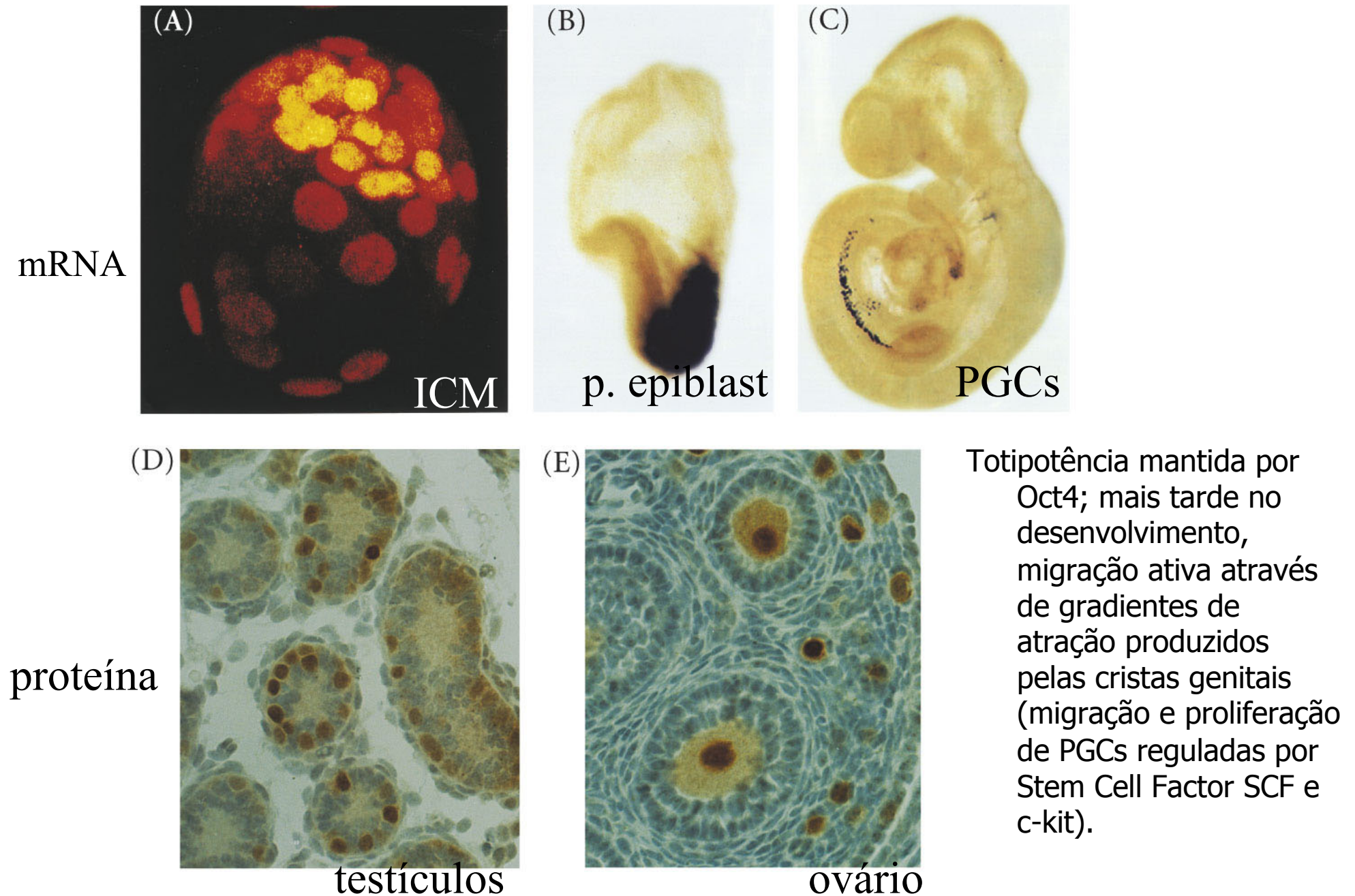
(B) Migration of PGCs into gonad



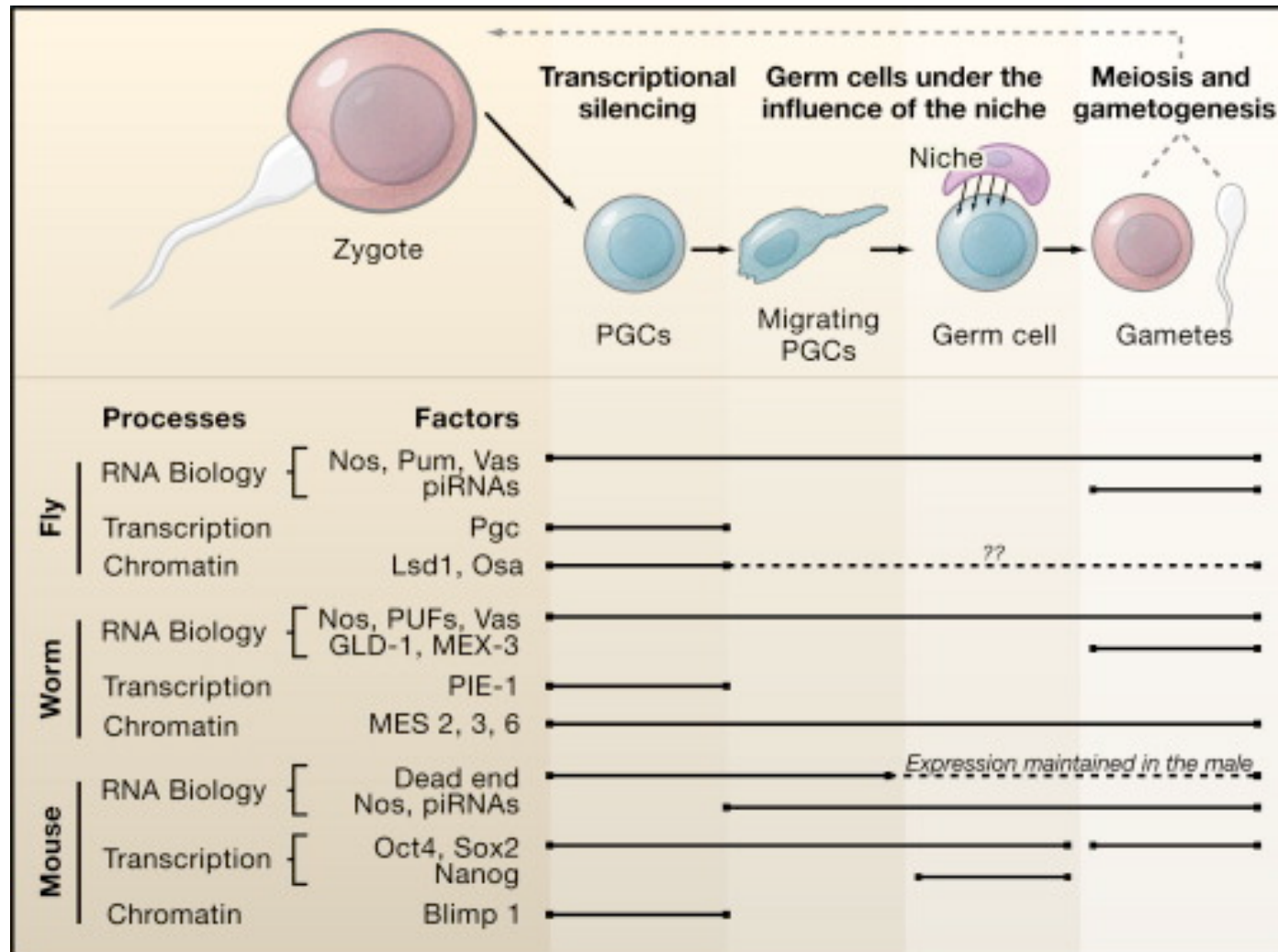
(C)



A expressão do mRNA *Oct4* está relacionada com a capacidade de formar células germinativas e totipotência

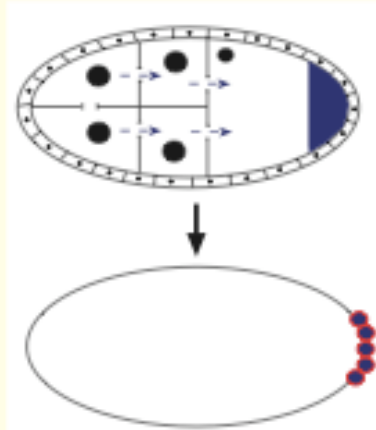


RESUMO: Generalidades das células germinativas nos diferentes modelos animais.

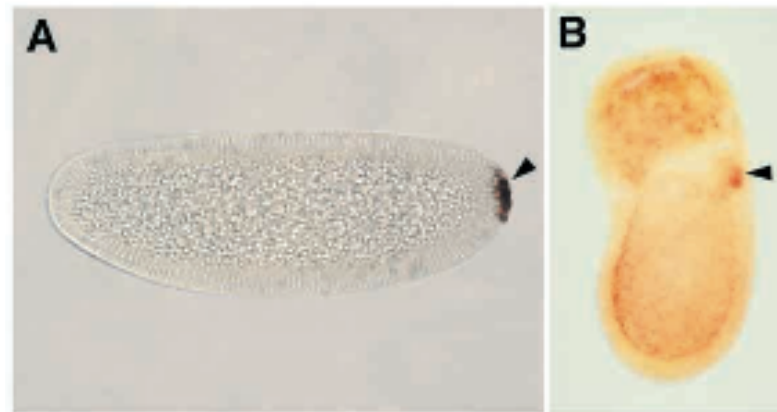
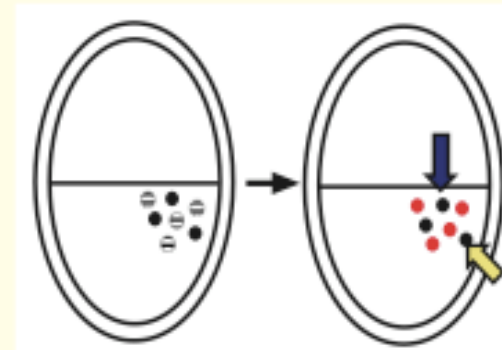


Duas formas extremas que formam as células germinativas em animais modelo

Preformation

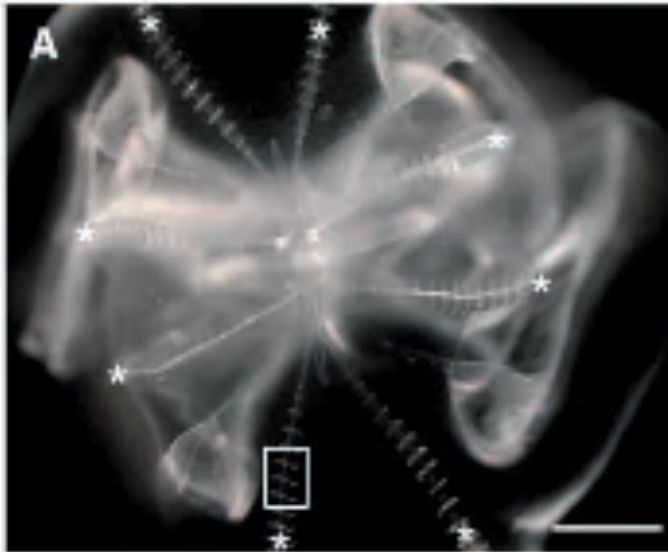


Epigenesis

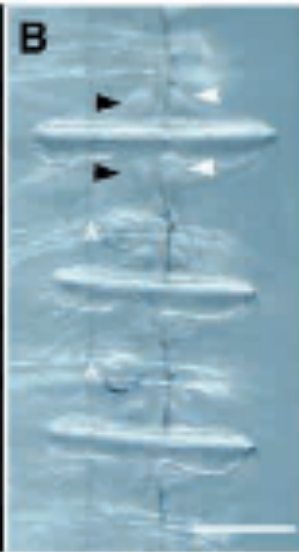


Extavour, 2003

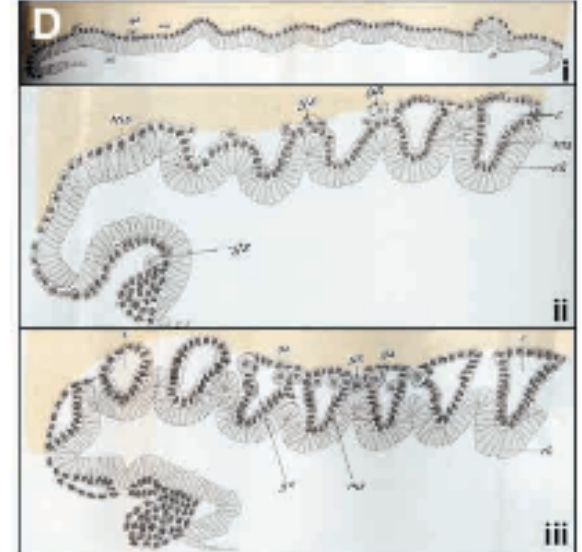
O que dizer das espécies que não são modelos animais?



Ctenóforo *Mnemiopsis leidyi*

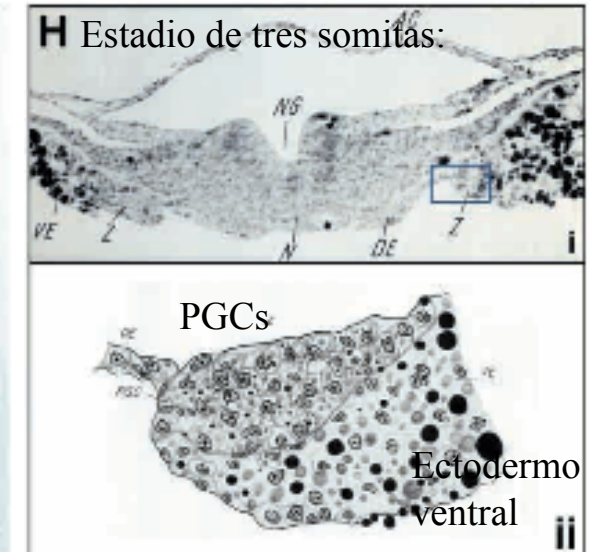
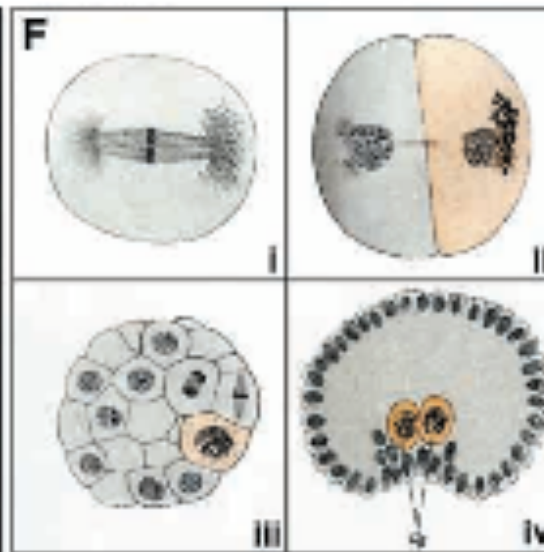


Barata *Blatta germanica*



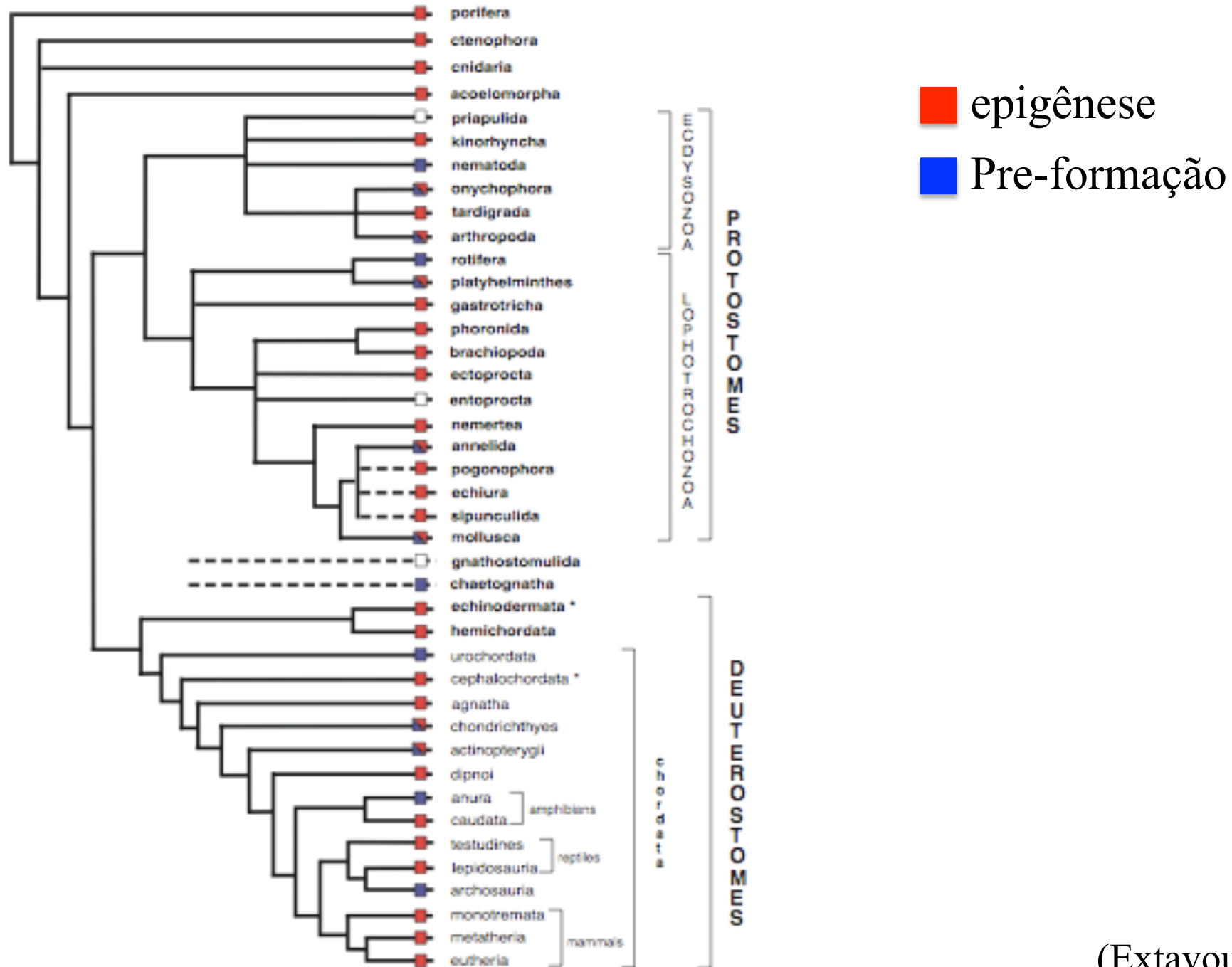
Copépodo *Cyclops fuscus*

Tartaruga *Sternoterus odoratus*



(Extavour, 2003)

O que dizer das espécies que não são modelos animais?



(Extavour, 2003)