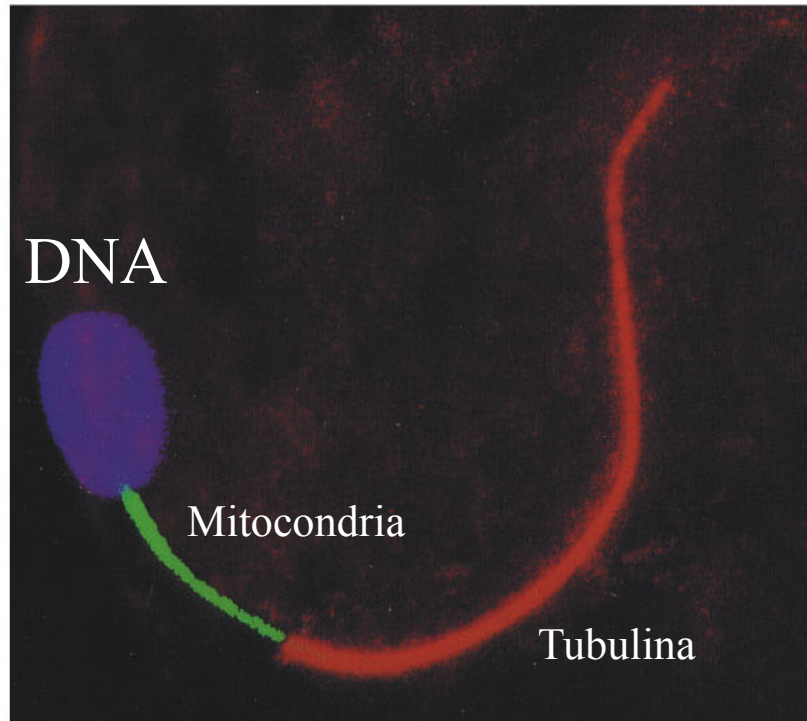
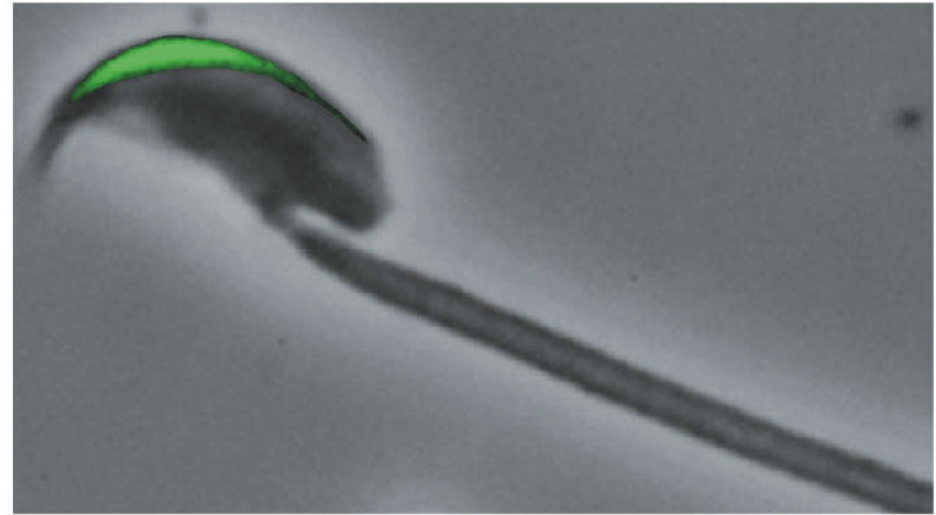
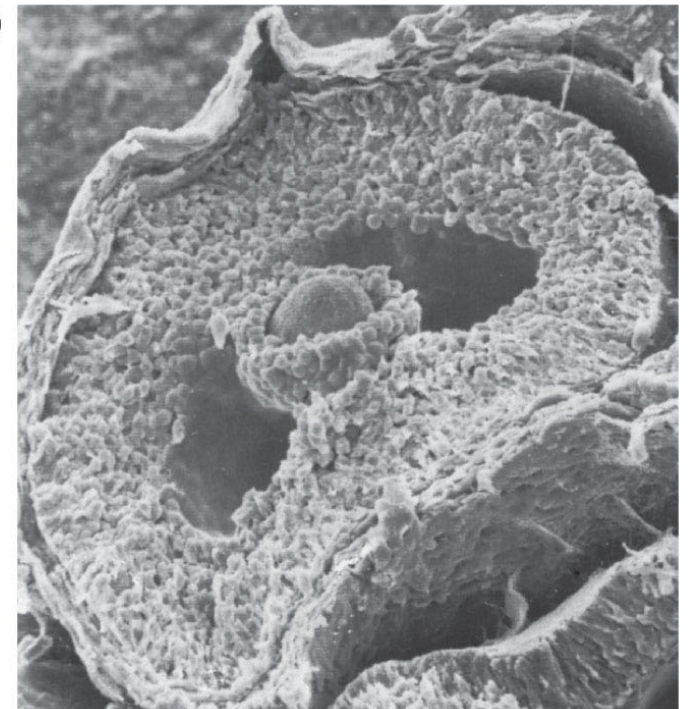




Touro

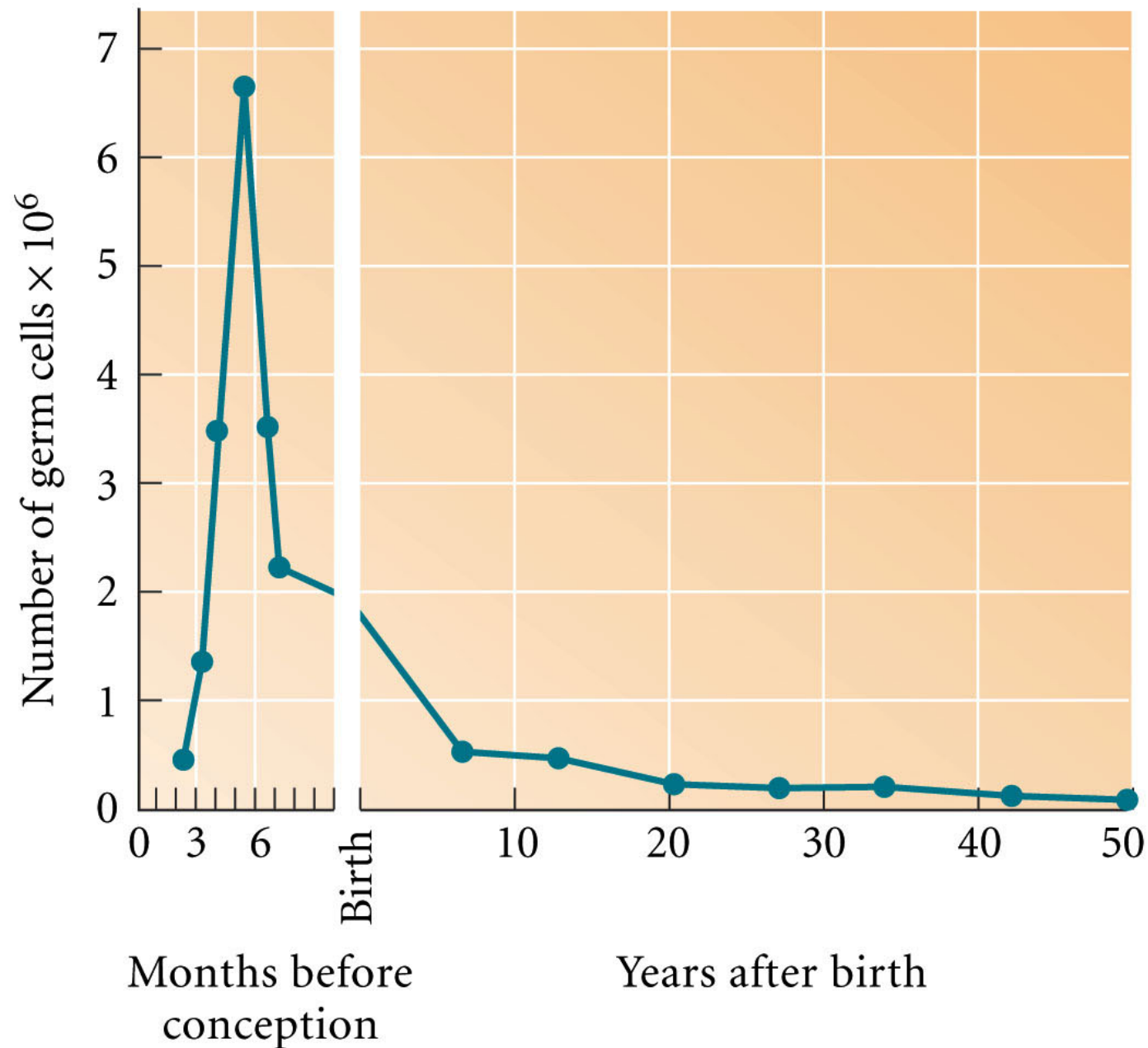


Acrossoma de rato

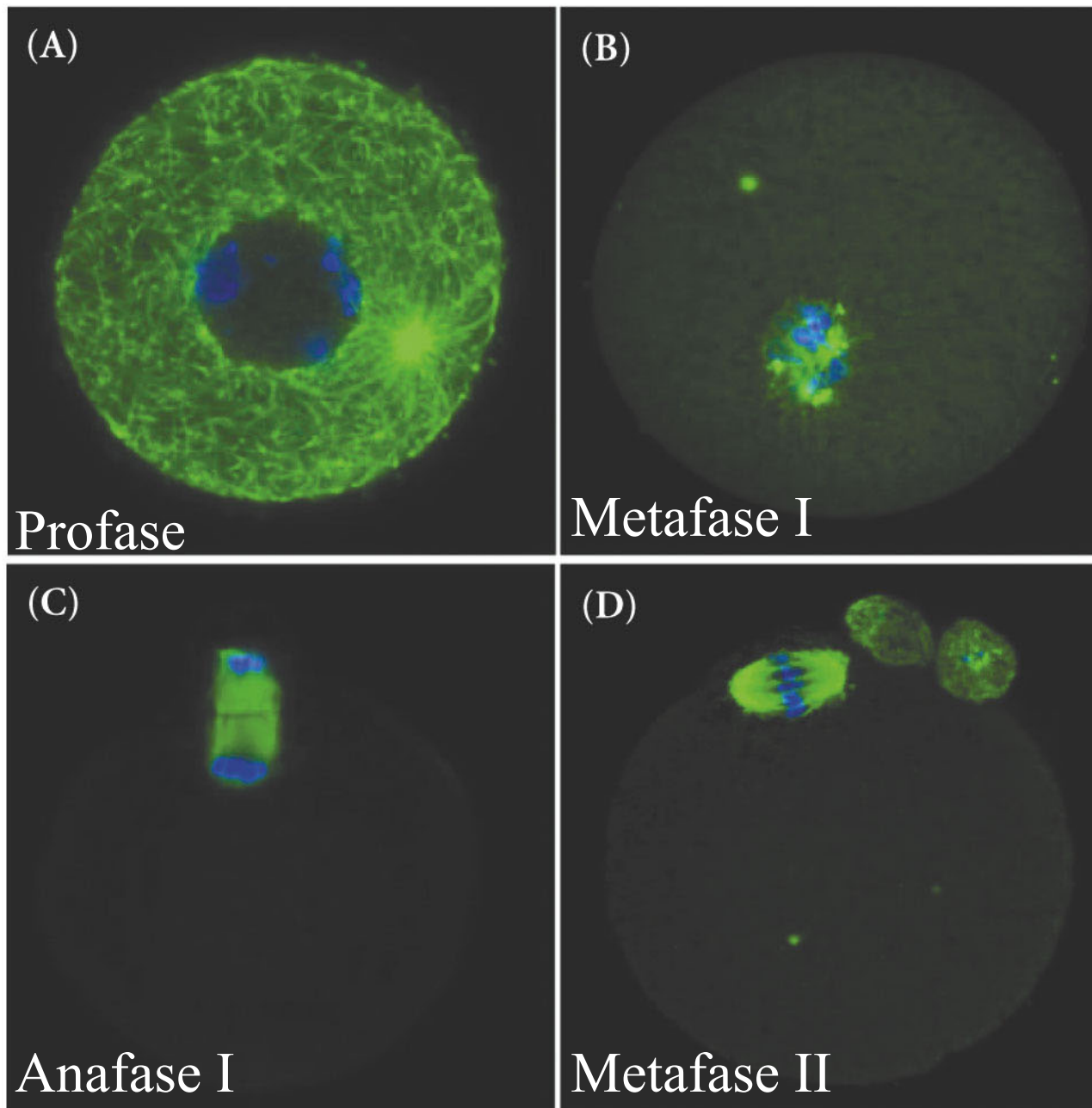


Folículo do ovário
de mamífero

As alterações no número de células germinativas do ovário humano ao longo do período da vida

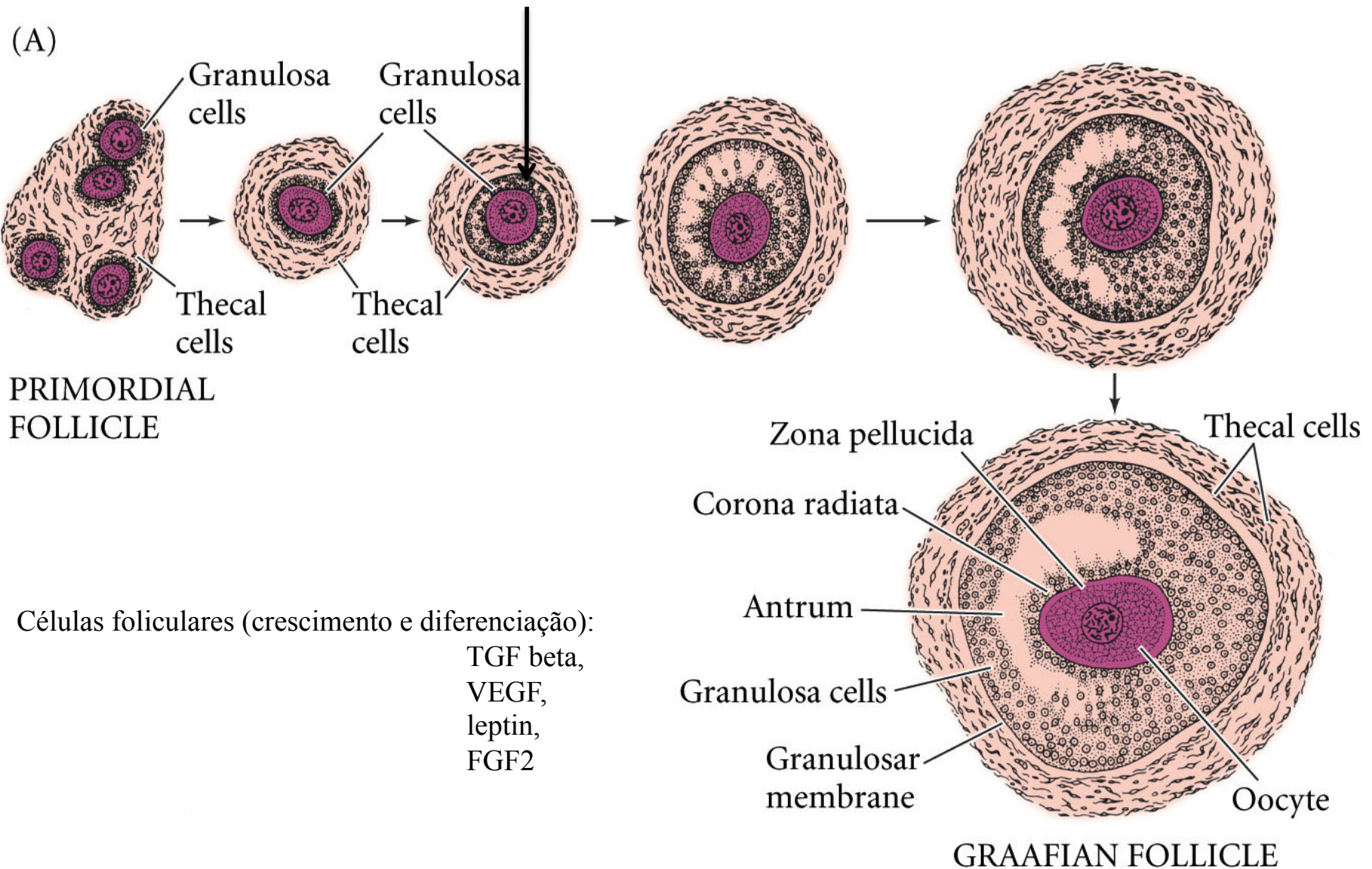


A meiose no oócito de camundongo

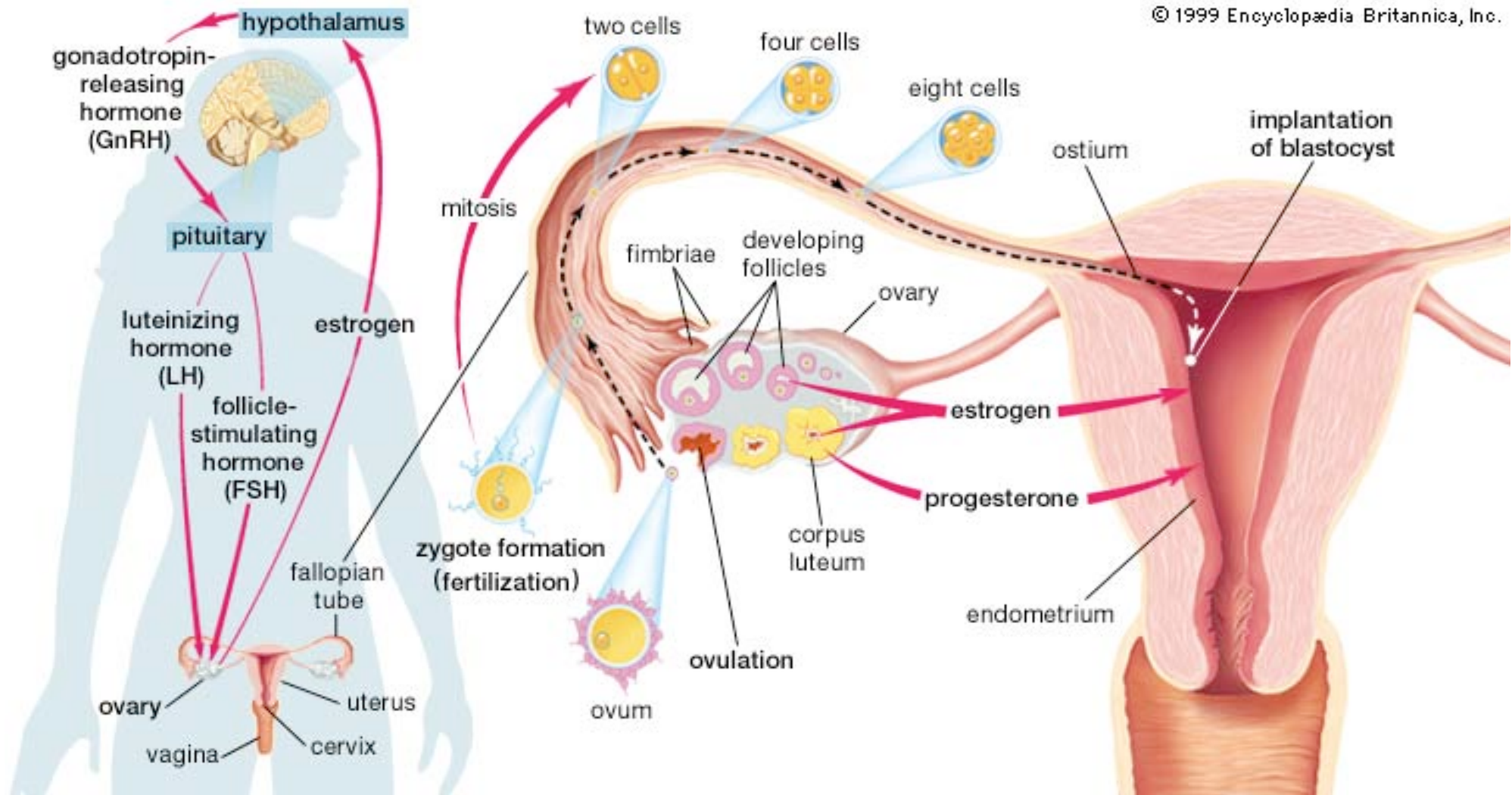


O folículo ovariano de mamíferos (crescimento e maturação do oócito)

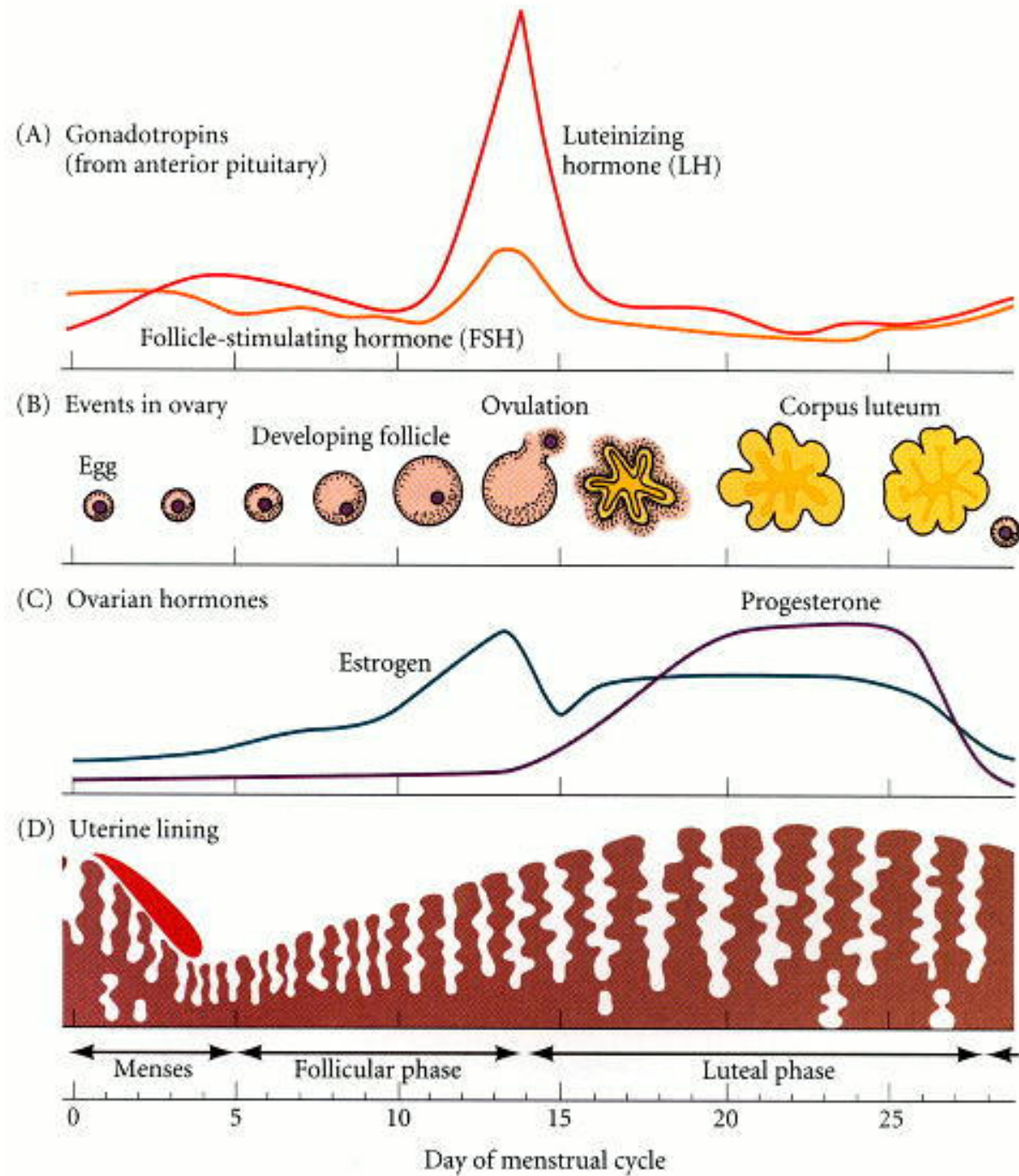
Oócitos expressam GDF9 (TGF beta) que induz proliferação de células foliculares



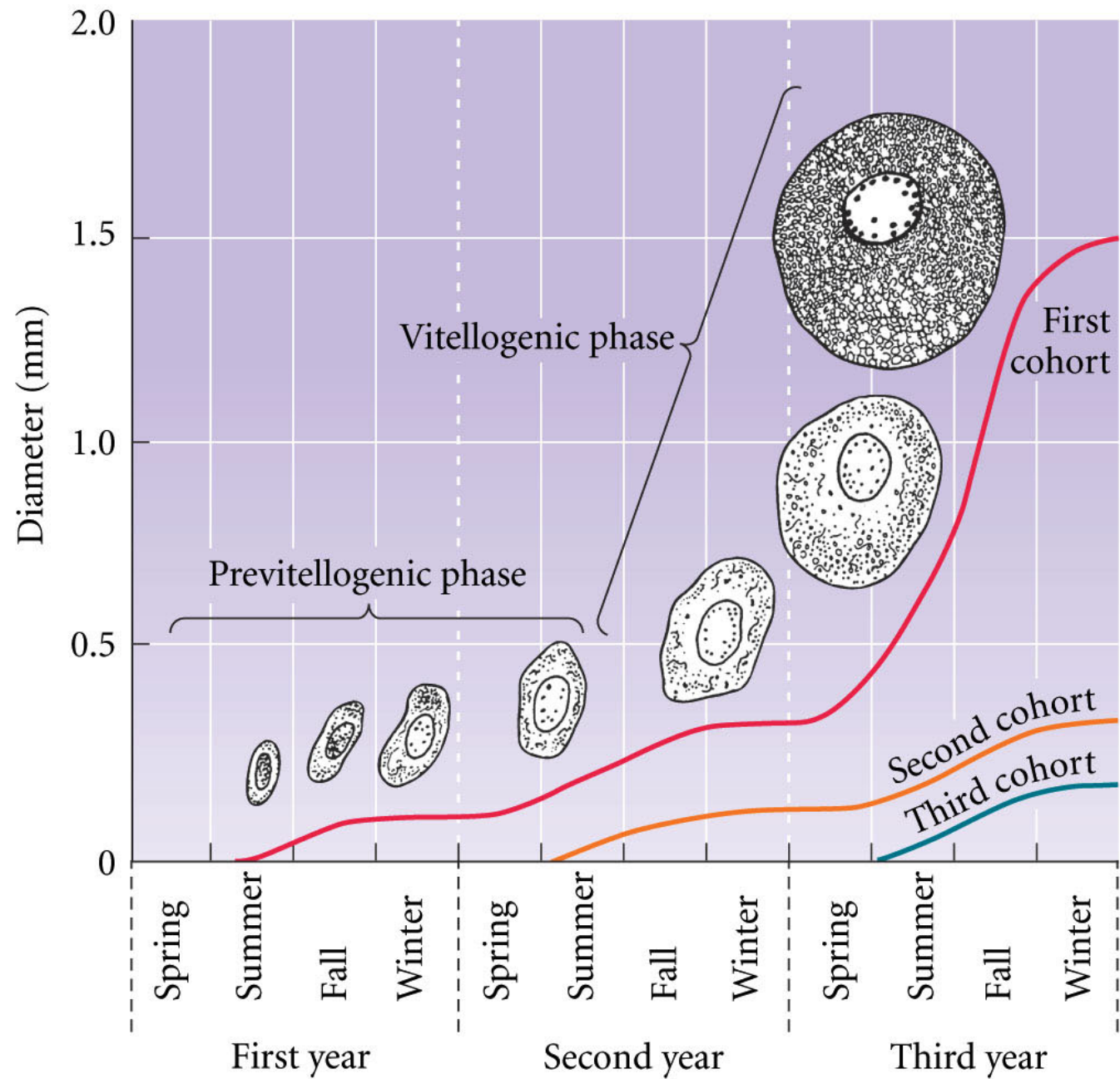
O ciclo menstrual humano

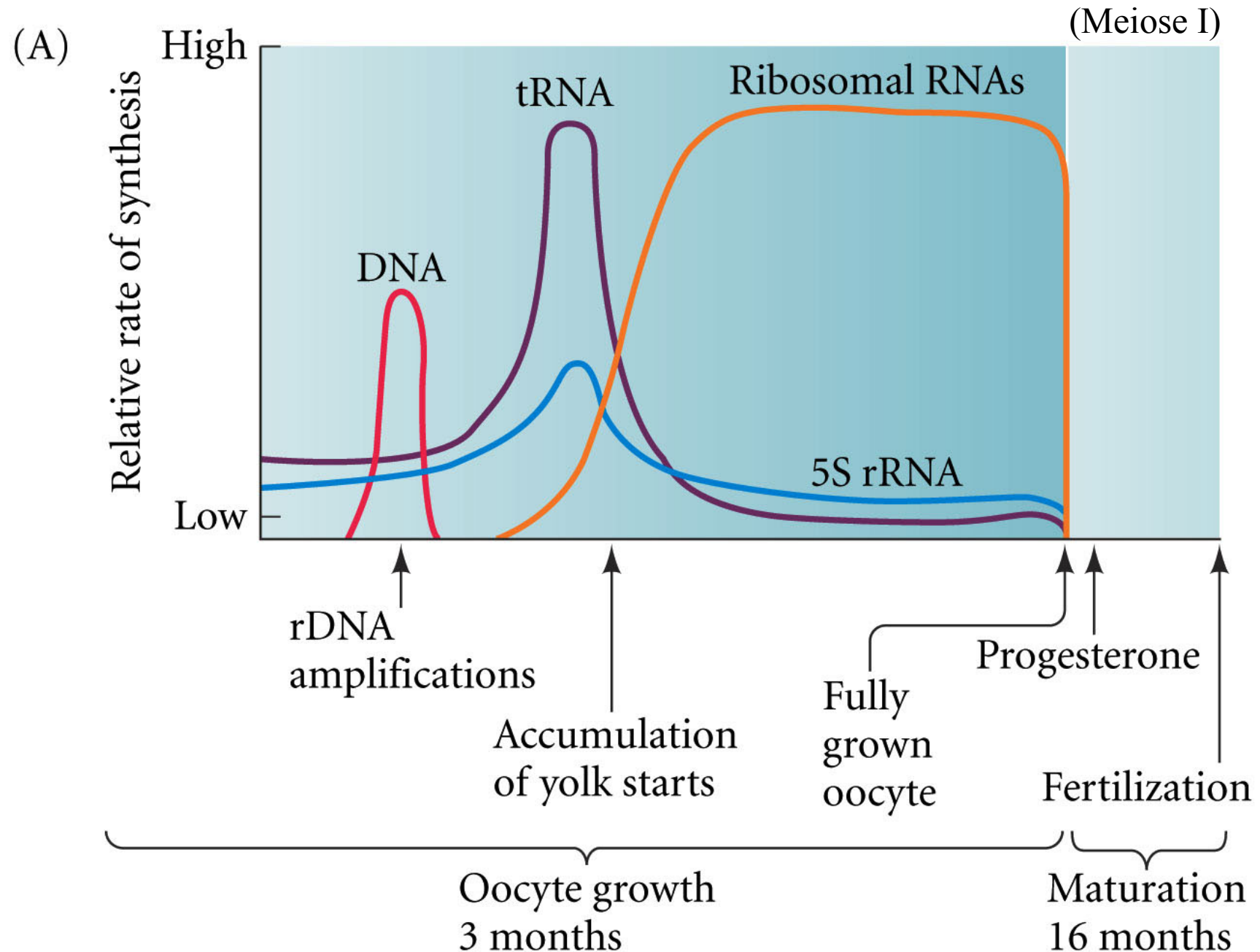


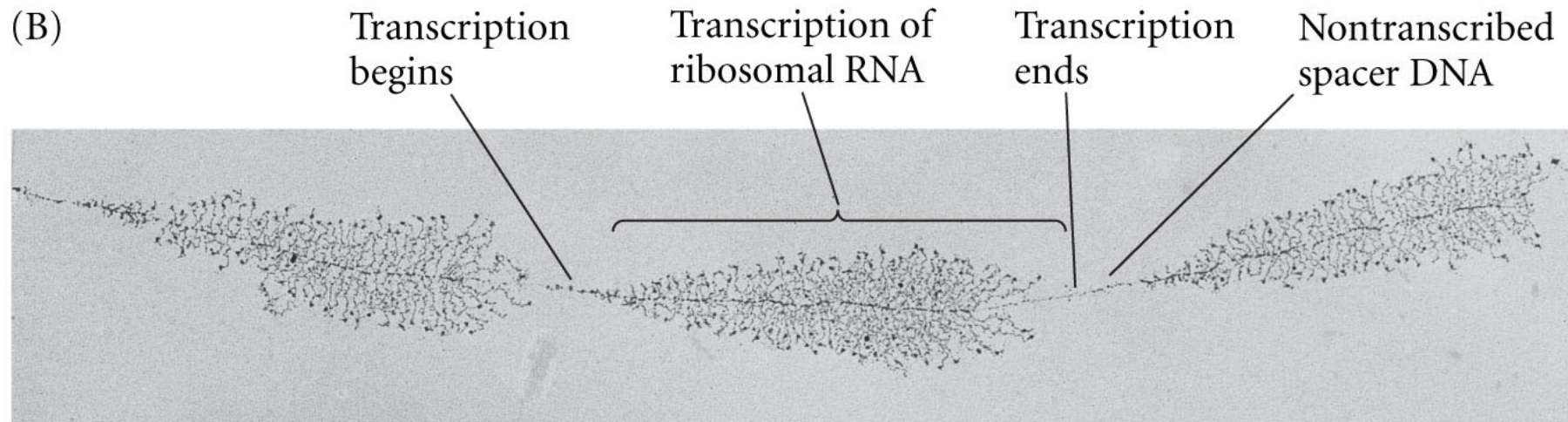
O ciclo menstrual humano



Crescimento de oócitos na rã



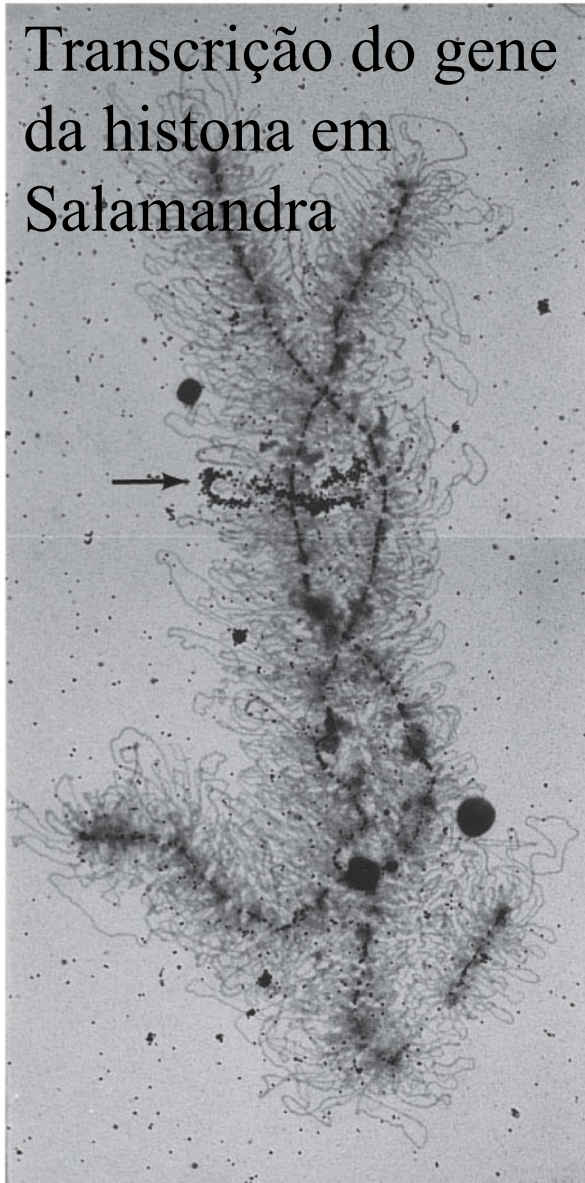




Em oócitos de anfíbios, cromossomos lampbrush são ativos no diplóteno da vesícula germinativa durante a primeira prófase meiótica

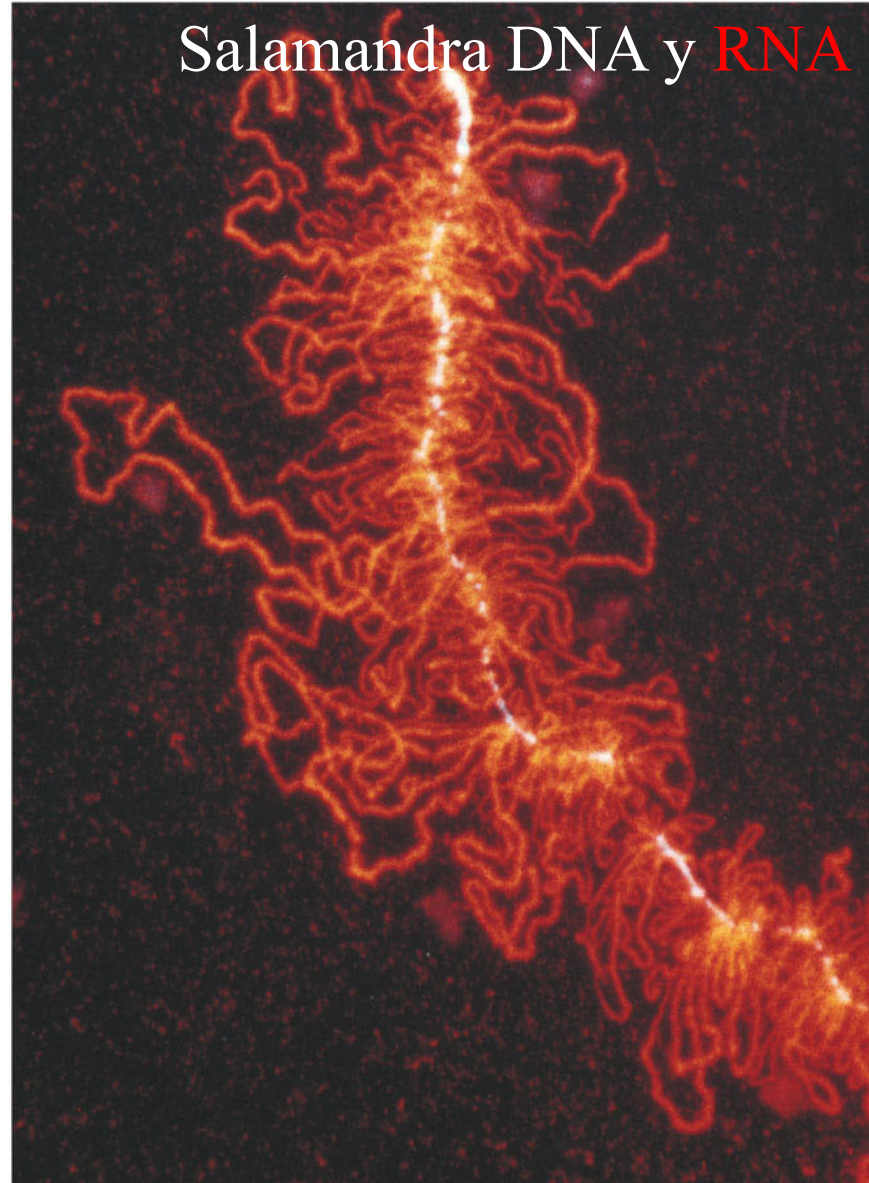
(A)

Transcrição do gene
da histona em
Salamandra



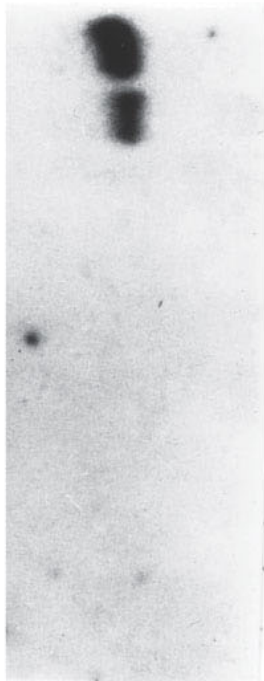
(B)

Salamandra DNA y RNA



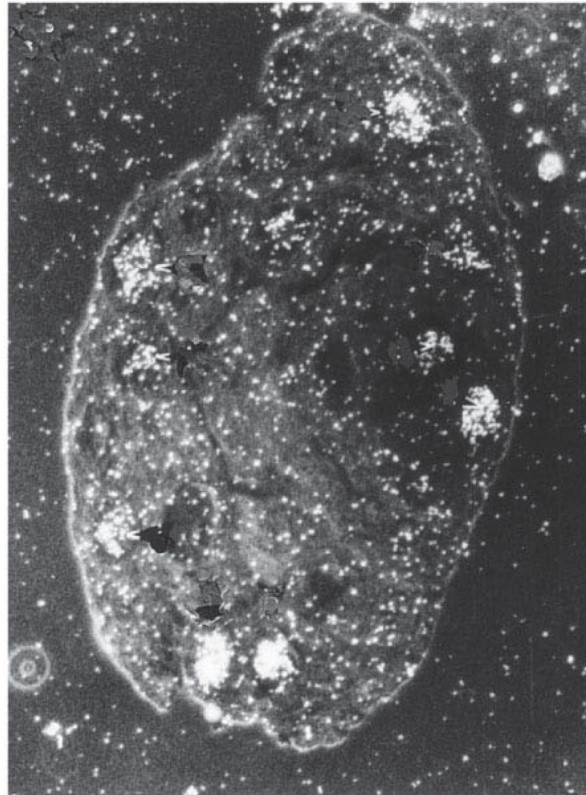
A expressão do gene ZP3 no oócito de camundongo em desenvolvimento

(A)



Oocyte
Ovary
Brain
Heart
Intestine
Kidney
Liver
Muscle
Testis
Uterus

(B)



(C)

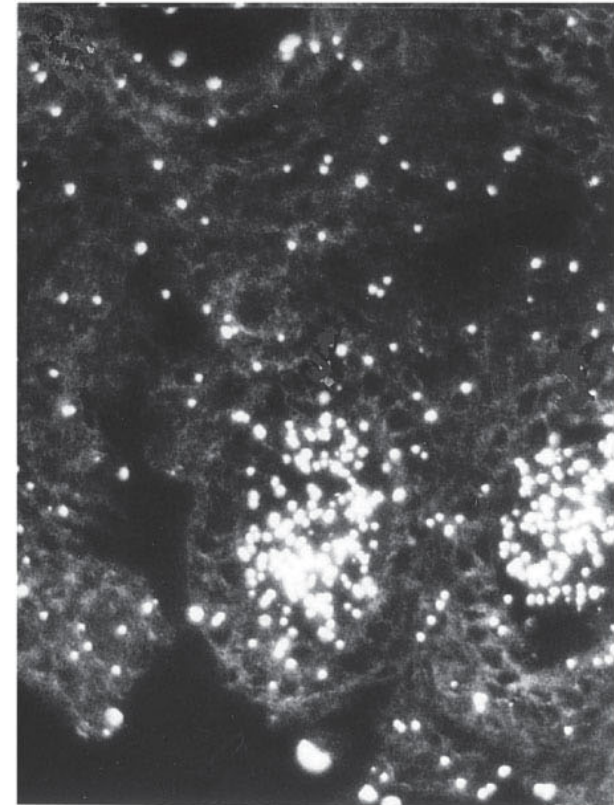


TABLE 19.2 Cellular components stored in the mature oocyte of *Xenopus laevis*

Component	Approximate excess over amount in larval cells
Mitochondria	100,000
RNA polymerases	60,000–100,000
DNA polymerases	100,000
Ribosomes	200,000
tRNA	10,000
Histones	15,000
Deoxyribonucleoside triphosphates	2,500

Source: After Laskey 1979.

Representação esquemática da maturação de oócitos de *Xenopus*, mostrando a regulação da divisão celular da meiose pela progesterona e a fertilização

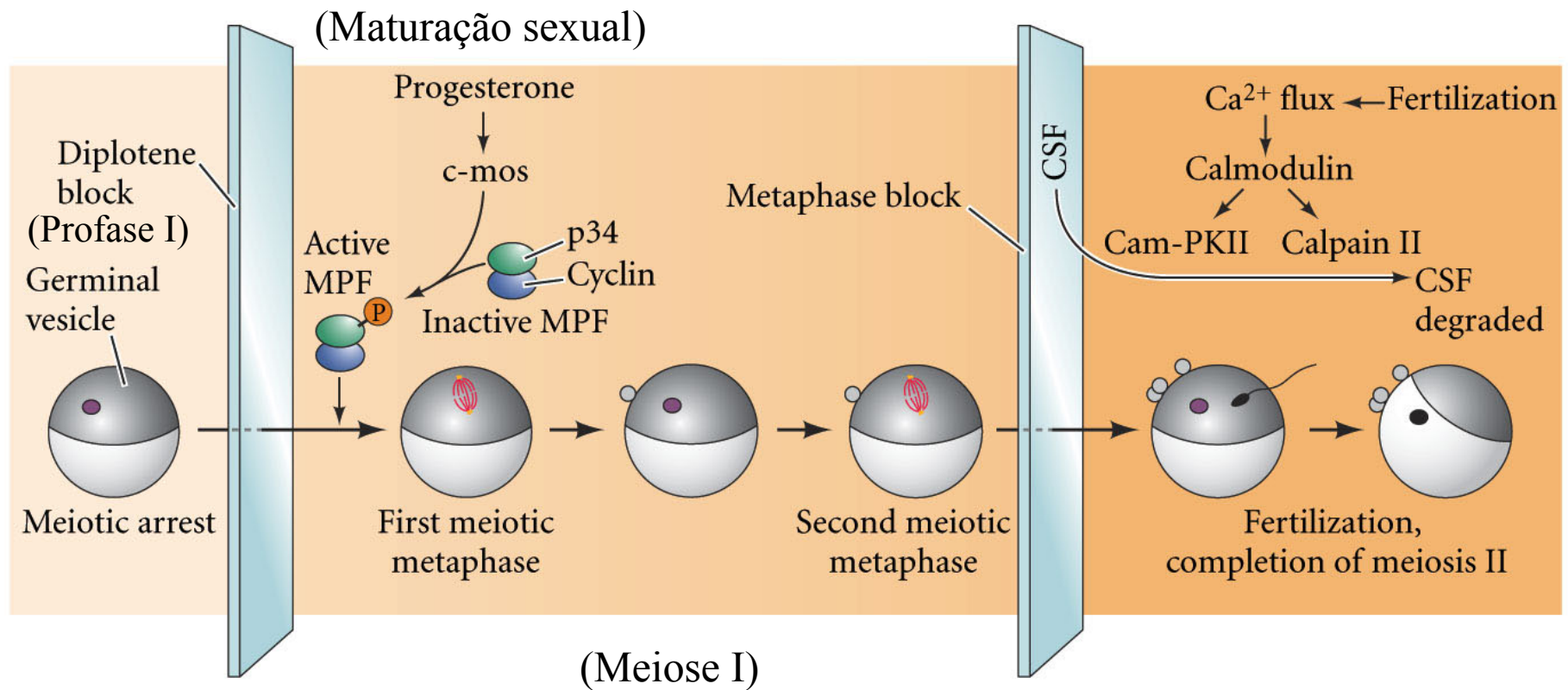


TABLE 19.1 Sexual dimorphism in mammalian meioses

Female oogenesis
Meiosis initiated once in a finite population of cells
One gamete produced per meiosis
Completion of meiosis delayed for months or years
Meiosis arrested at first meiotic prophase and reinitiated in a smaller population of cells
Differentiation of gamete occurs while diploid, in first meiotic prophase
All chromosomes exhibit equivalent transcription and recombination during meiotic prophase

Source: Handel and Eppig 1998.

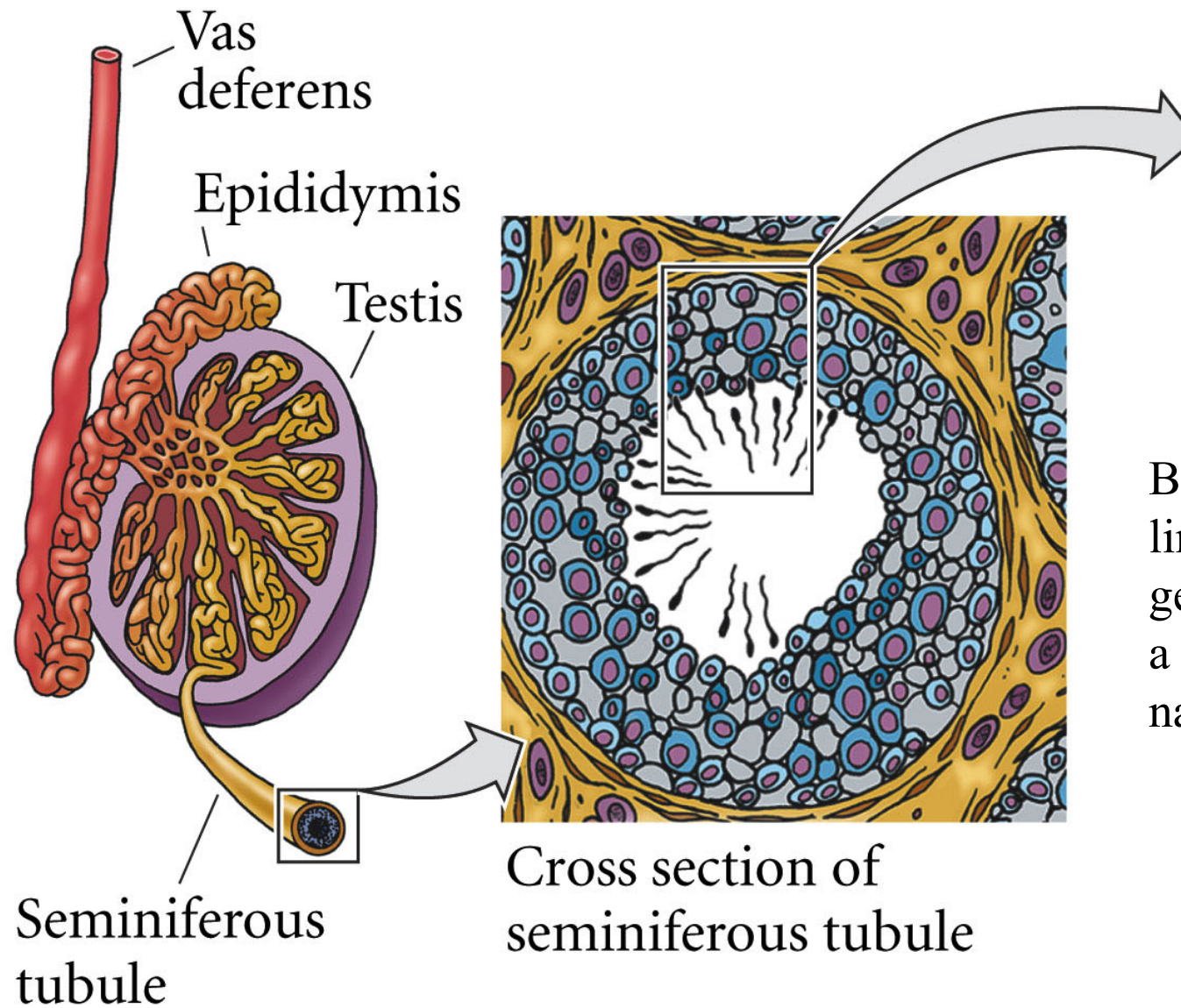
- a) *Drosophila mangabeirai* – um dos Corpos Polares atua como espermatozóide e induz a fertilização do ovo. PARTENOGENÊSE
- b) Inseto *Moraba virgo* e lagarto *Cnemidophorus uniparens* – oogônia duplica seu número cromossômico antes da meiose e por isso termina com oócitos diplóides depois da meiose. PARTENOGENÊSE
- c) Saltamontes *Pycnoscelus surinamensis* – não precisa de meiose, o zigoto fêmea se forma mediante a mitose. PARTENOGENÊSE
- d) Himenoptera (abelhas, vespas e formigas) – ovos não fecundados (e portanto haplóides) se desenvolvem em machos; fecundação gera zigotos diplóides que produzirão fêmeas. PARTENOGENÊSE HAPLÓIDE

TABLE 19.1 Sexual dimorphism in mammalian meioses

Female oogenesis	Male spermatogenesis
Meiosis initiated once in a finite population of cells	
One gamete produced per meiosis	
Completion of meiosis delayed for months or years	
Meiosis arrested at first meiotic prophase and reinitiated in a smaller population of cells	
Differentiation of gamete occurs while diploid, in first meiotic prophase	
All chromosomes exhibit equivalent transcription and recombination during meiotic prophase	

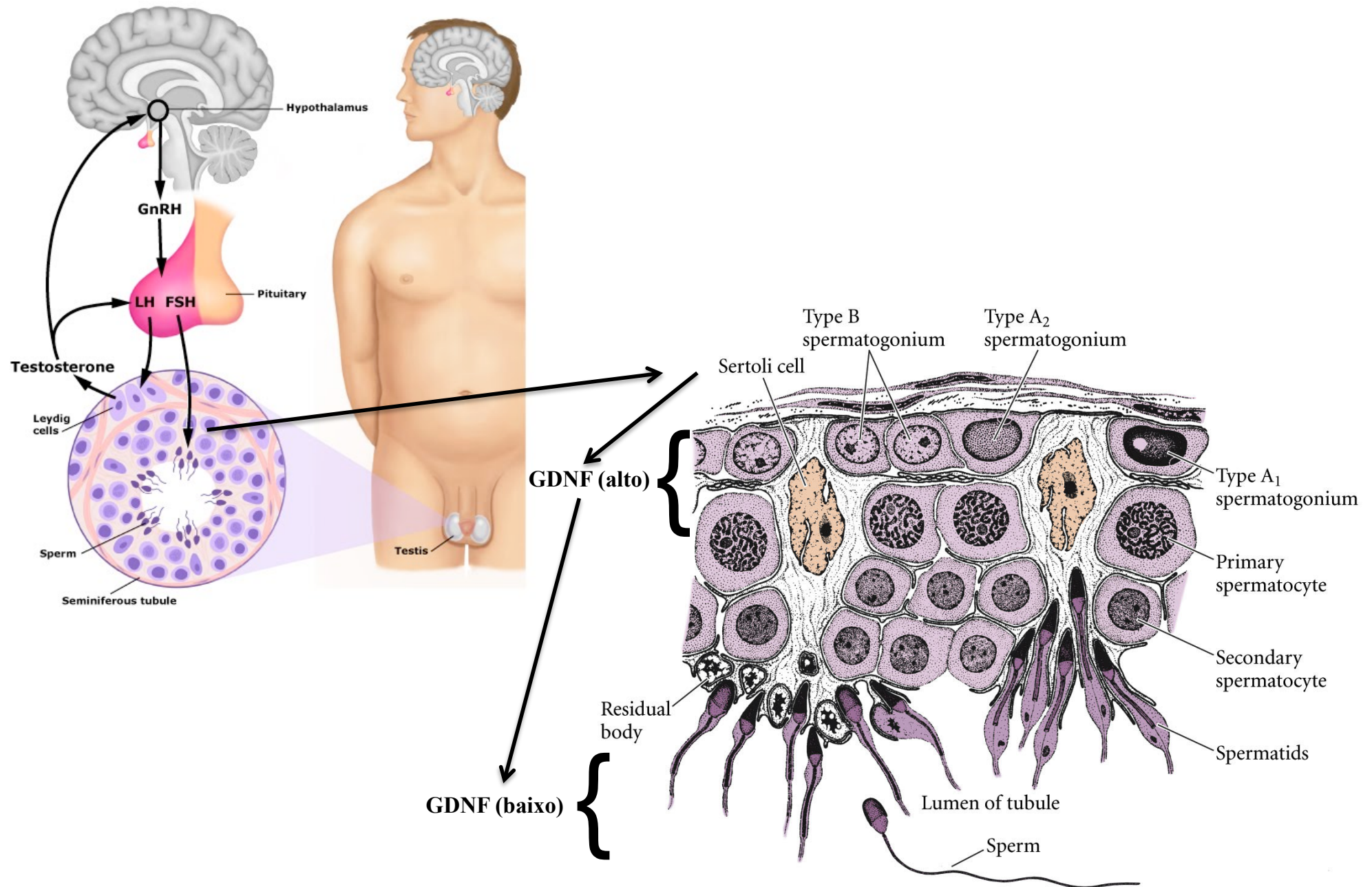
Source: Handel and Eppig 1998.

Secção do túbulo seminífero, mostrando a relação entre as células de Sertoli e o desenvolvimento do espermatozoário

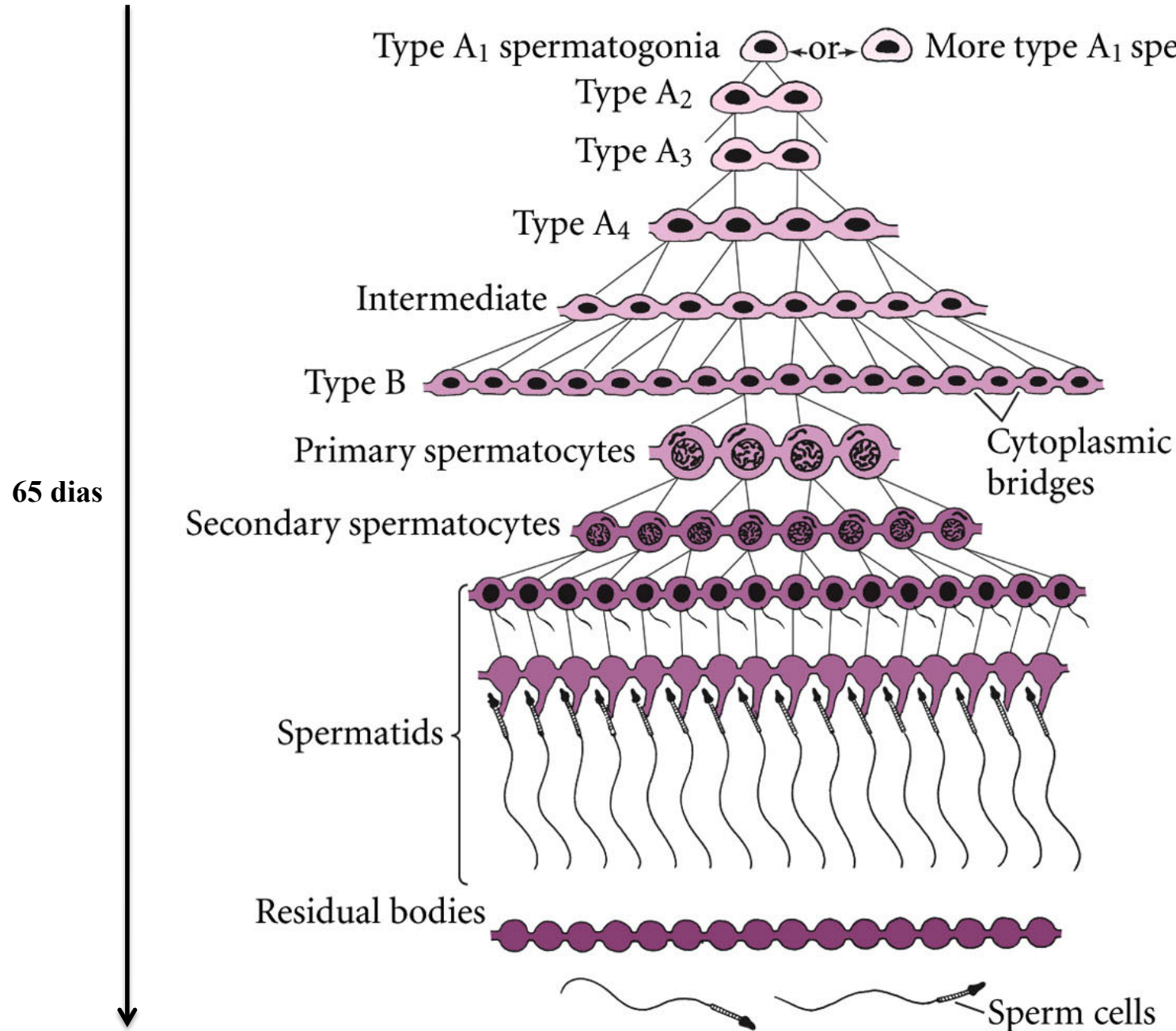


BMP8b da linhagem germinativa inicia a espermatogênese na puberdade

Secção do túbulo seminífero, mostrando a relação entre as células de Sertoli e o desenvolvimento do espermatozoário



A formação de clones sinciciais de células germinativas do macho de humanos

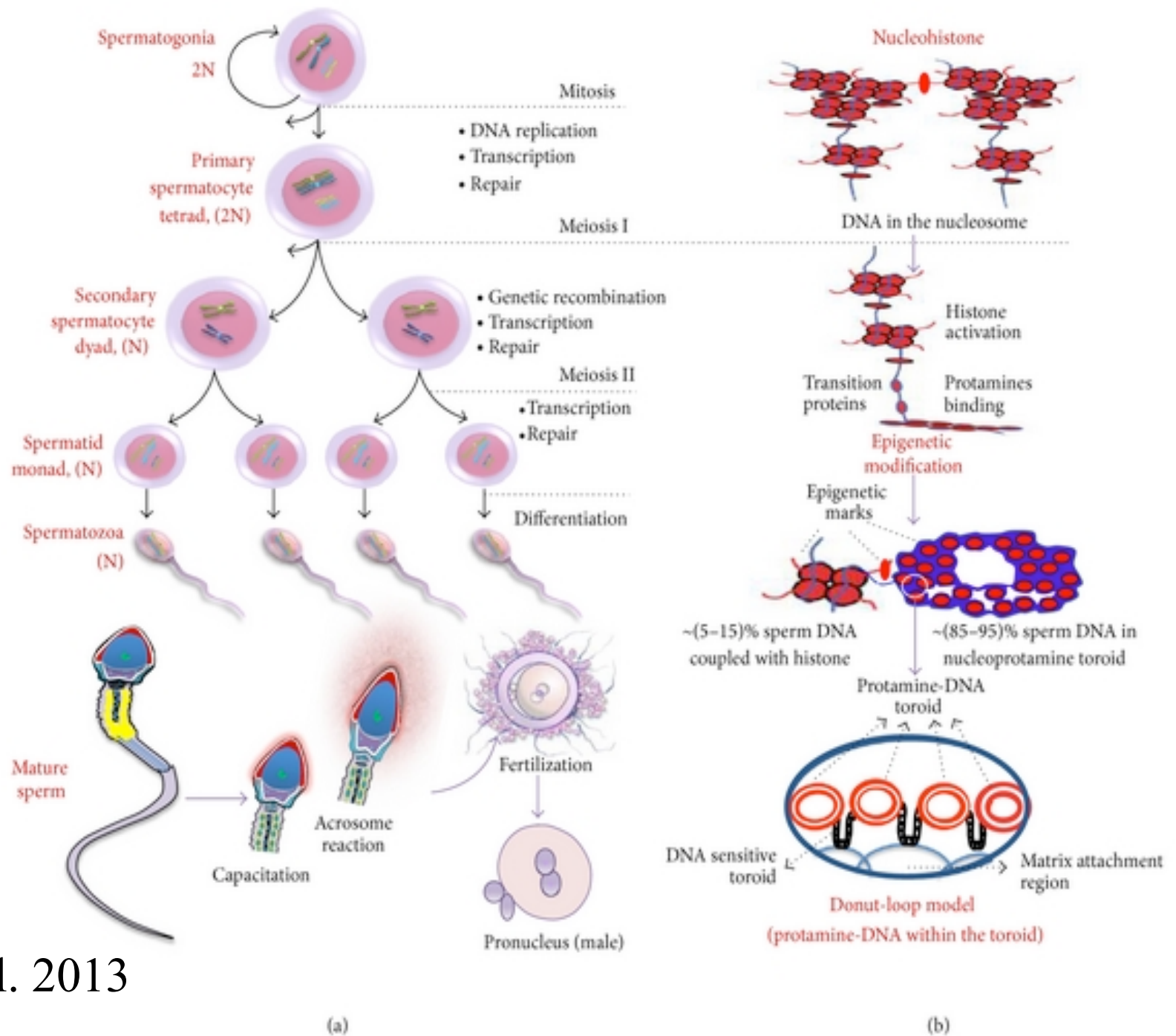


Dados interessantes:

- 100 milhões de espermatozoides / dia
- 200 milhões de espermatozoides / ejaculação

Ultra compactação do DNA nos espermatozóides

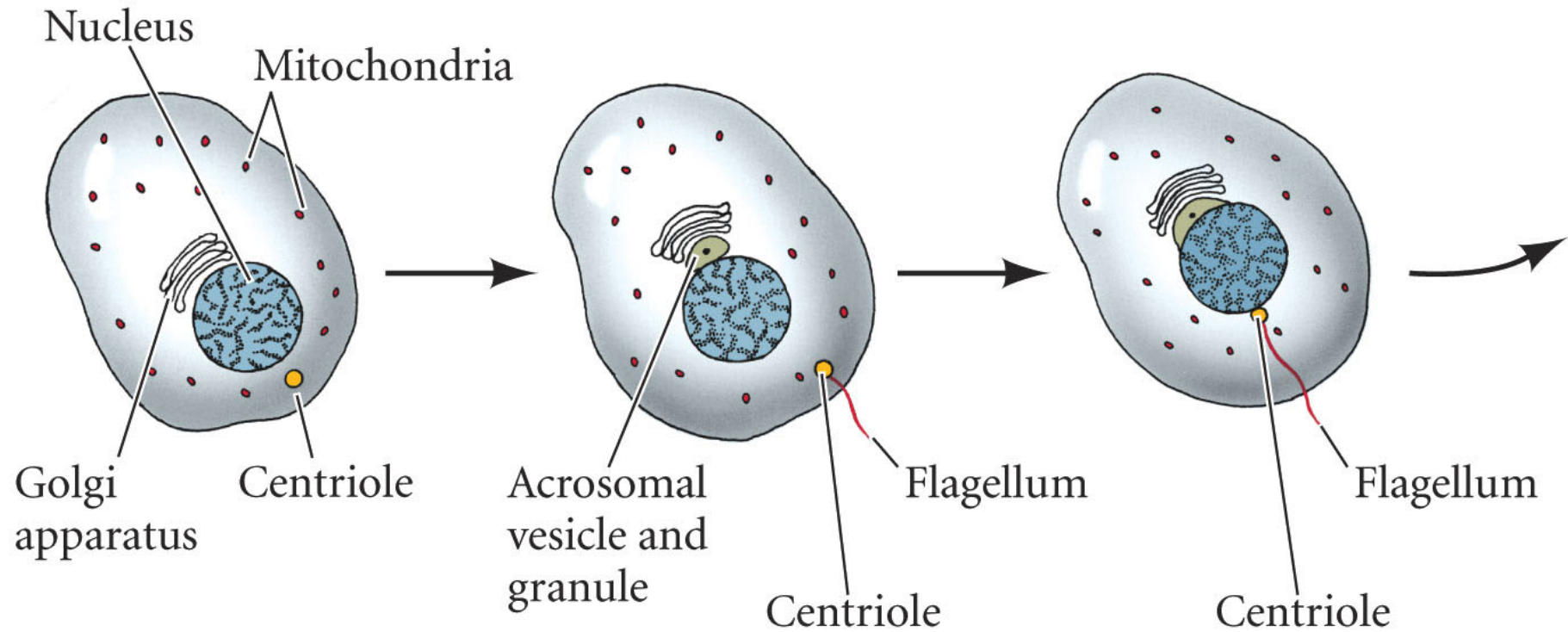
Protaminas:
possuem a
função de
compactar,
estabilizar e
proteger o
material
genético no
núcleo do
espermatozóide



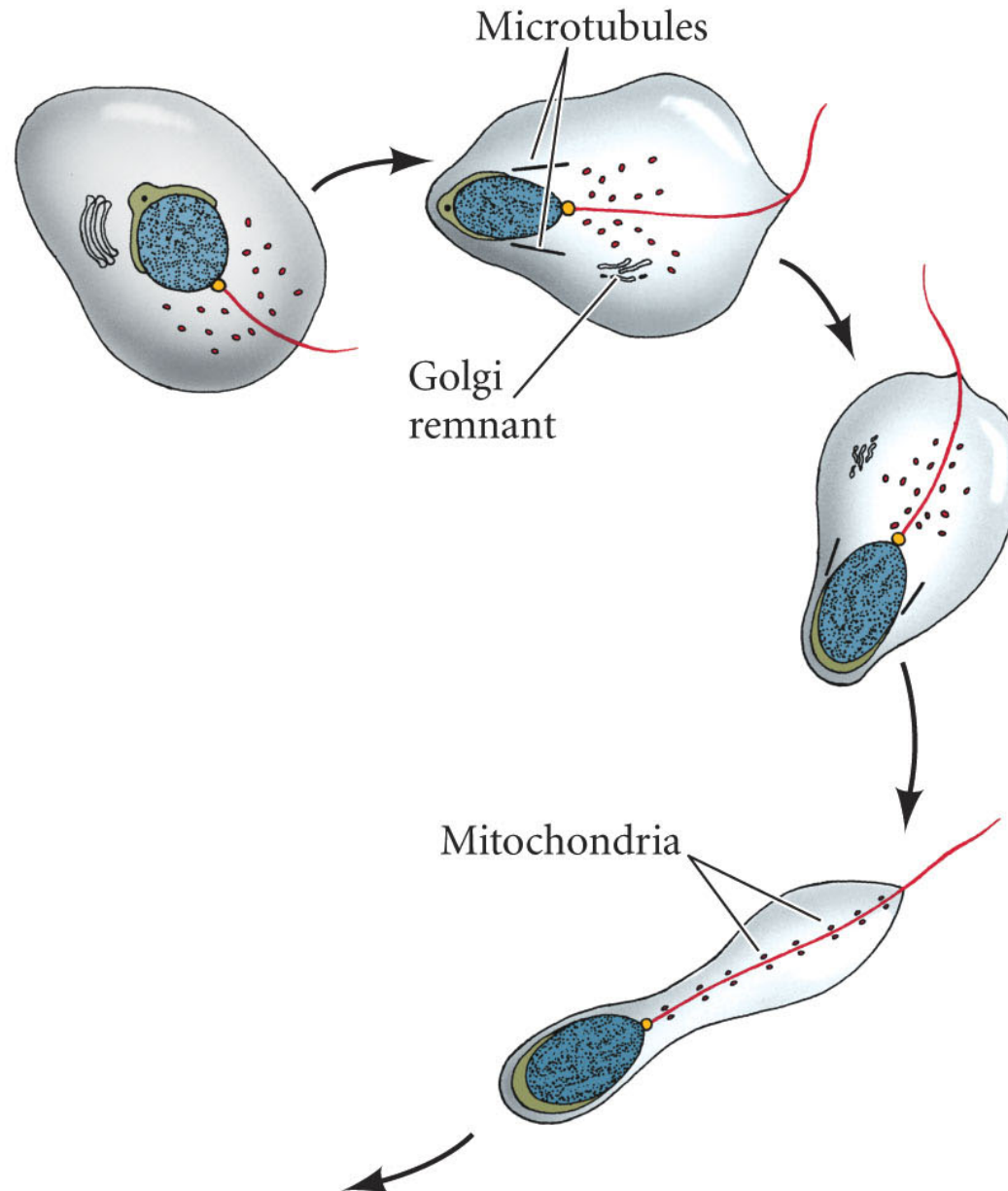
Rahman et al. 2013

Espermiogênese ou maturação das espermatídes (Parte I)

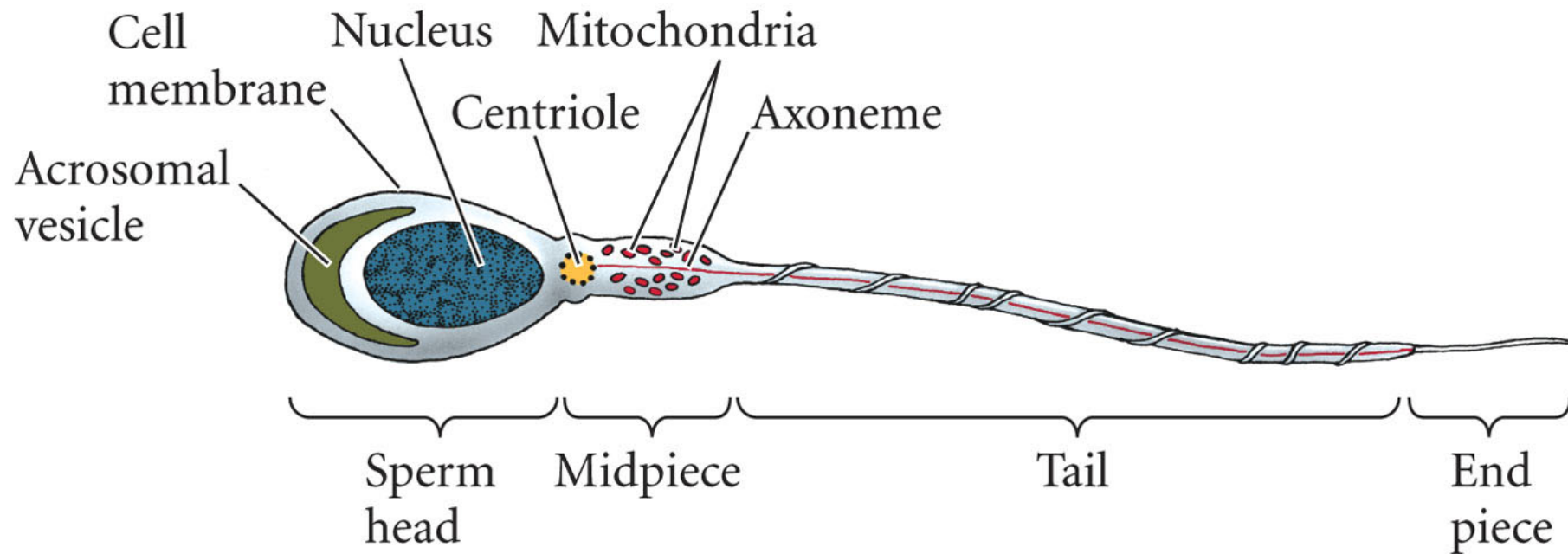
(A)



Espermiogênese ou maturação das espermátides (Parte II)

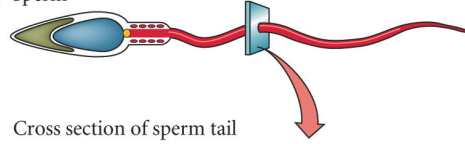


Espermiogênese ou maturação das espermatídes (Parte III)

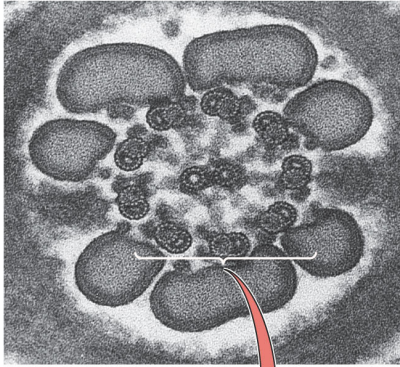


O aparelho móvel do esperma

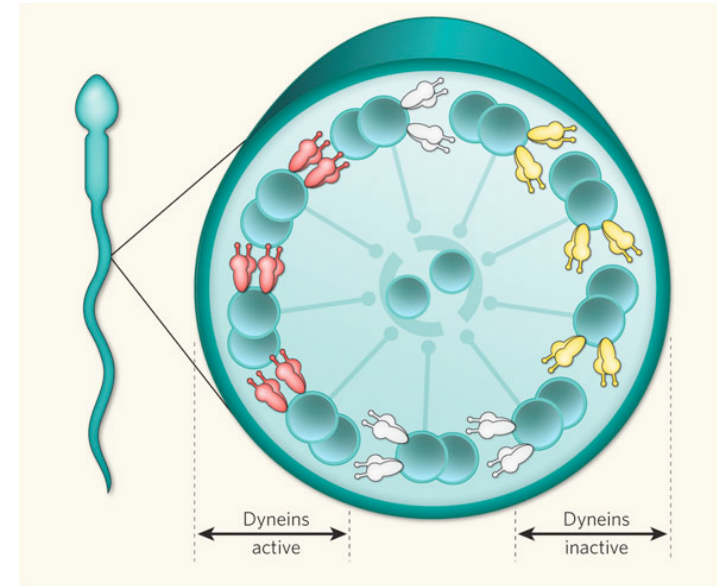
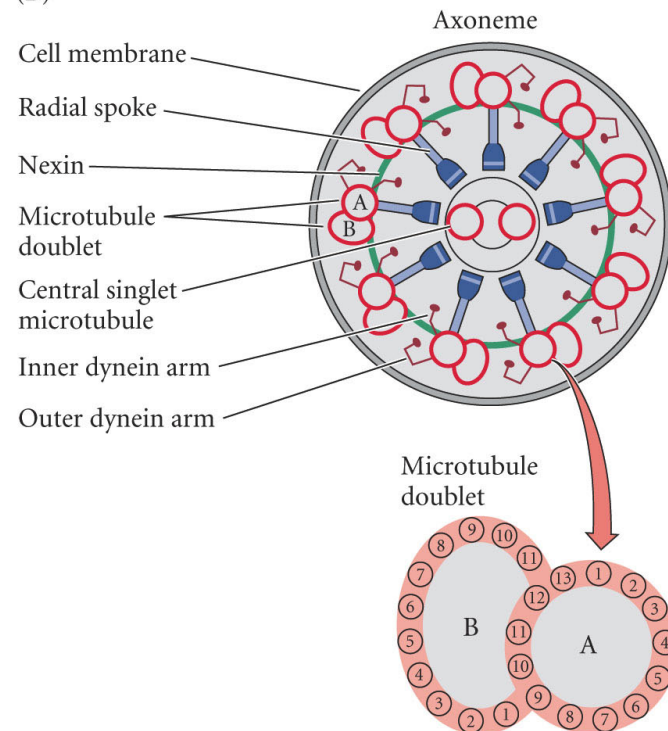
(A) Sperm



Cross section of sperm tail

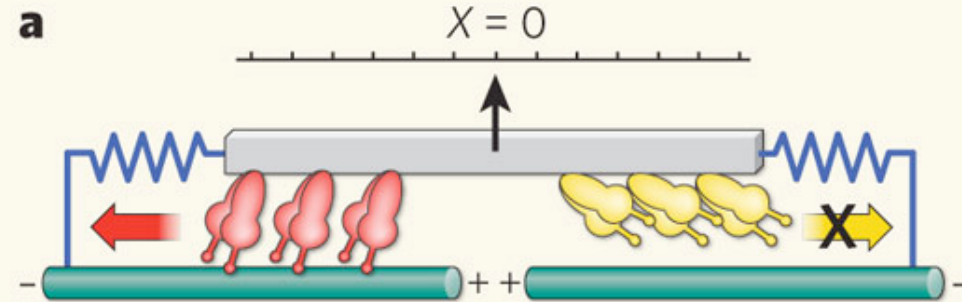


(B)

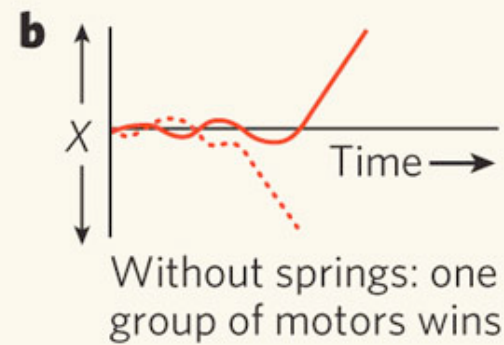


Mitchison & Mitchison 2010

a



b



c

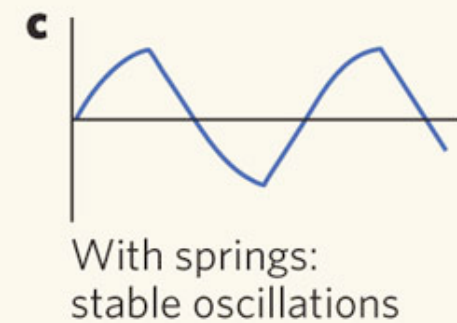


TABLE 19.1 Sexual dimorphism in mammalian meioses

Female oogenesis	Male spermatogenesis
Meiosis initiated once in a finite population of cells	Meiosis initiated continuously in a mitotically dividing stem cell population
One gamete produced per meiosis	Four gametes produced per meiosis
Completion of meiosis delayed for months or years	Meiosis completed in days or weeks
Meiosis arrested at first meiotic prophase and reinitiated in a smaller population of cells	Meiosis and differentiation proceed continuously without cell cycle arrest
Differentiation of gamete occurs while diploid, in first meiotic prophase	Differentiation of gamete occurs while haploid, after meiosis ends
All chromosomes exhibit equivalent transcription and recombination during meiotic prophase	Sex chromosomes excluded from recombination and transcription during first meiotic prophase

Source: Handel and Eppig 1998.

Próxima semana: ESPERMOGRAMA

- Doadores anónimos
- Trazer máscara, jaleco, luvas
- Trazer questão/pesquisa preenchidas

(WikiEdit do estudante do 2015, ler até coleta)
(<https://pt.wikipedia.org/wiki/Espermograma>)