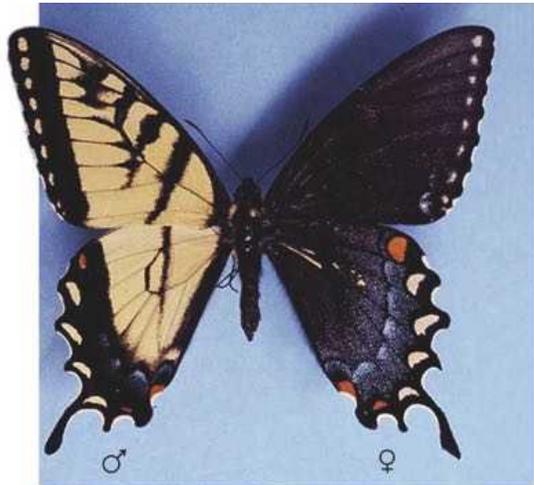
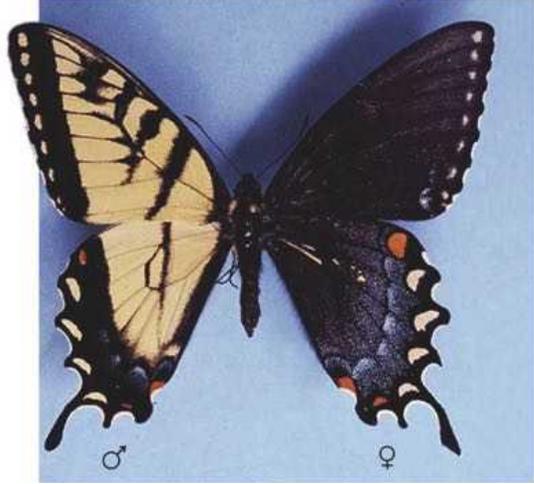


Determinação do sexo - GYNANDROMORFOS



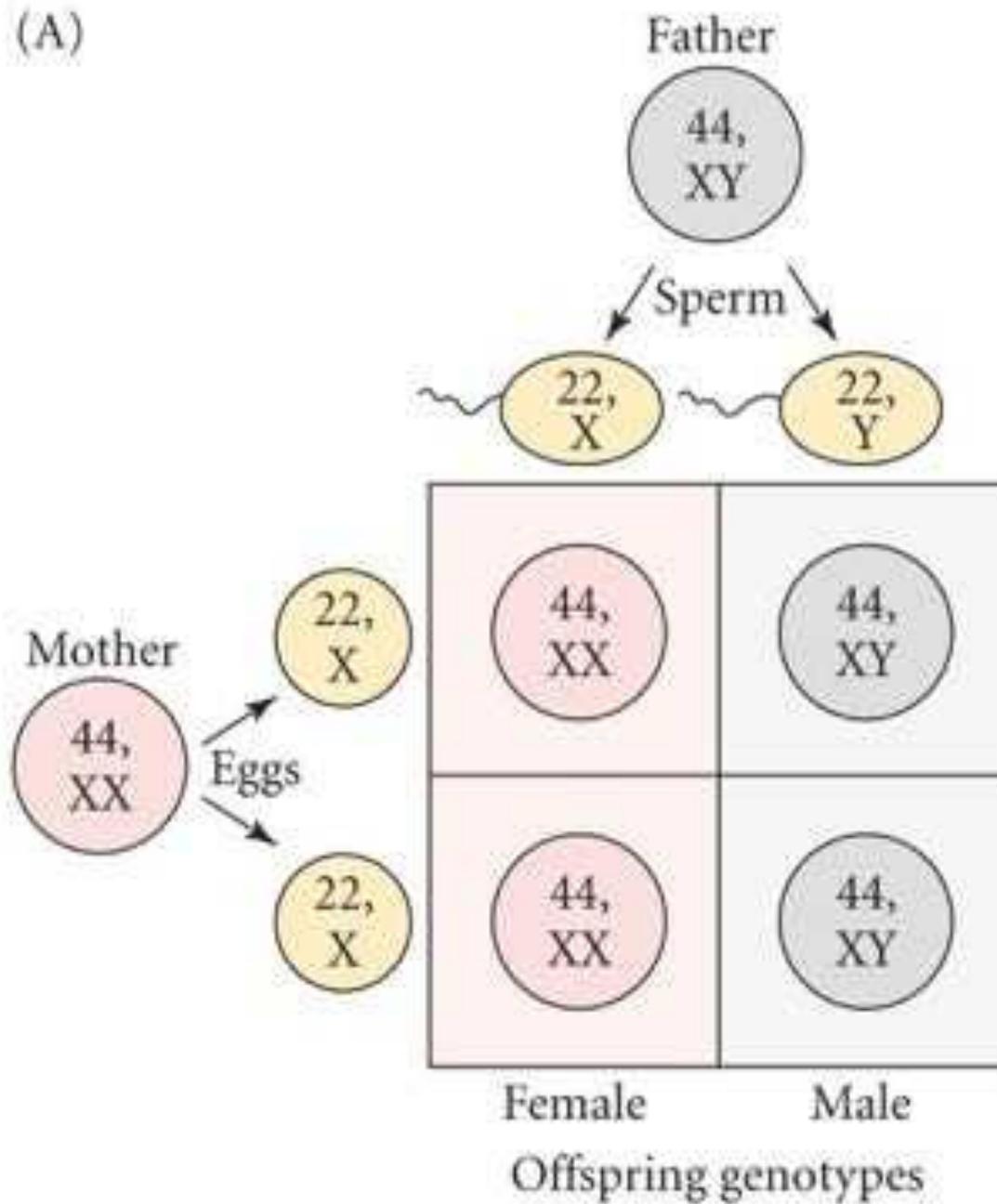
Determinação do sexo - GYNANDROMORFOS



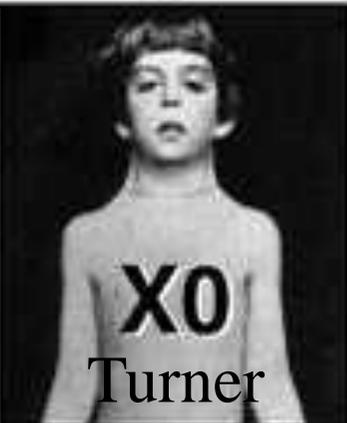
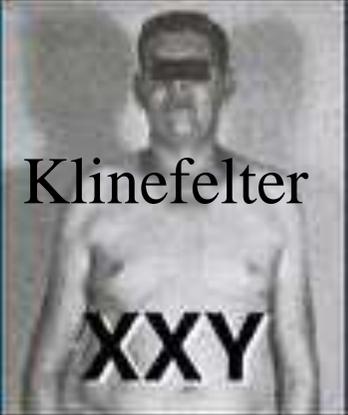
Determinação do sexo - GYNANDROMORFOS

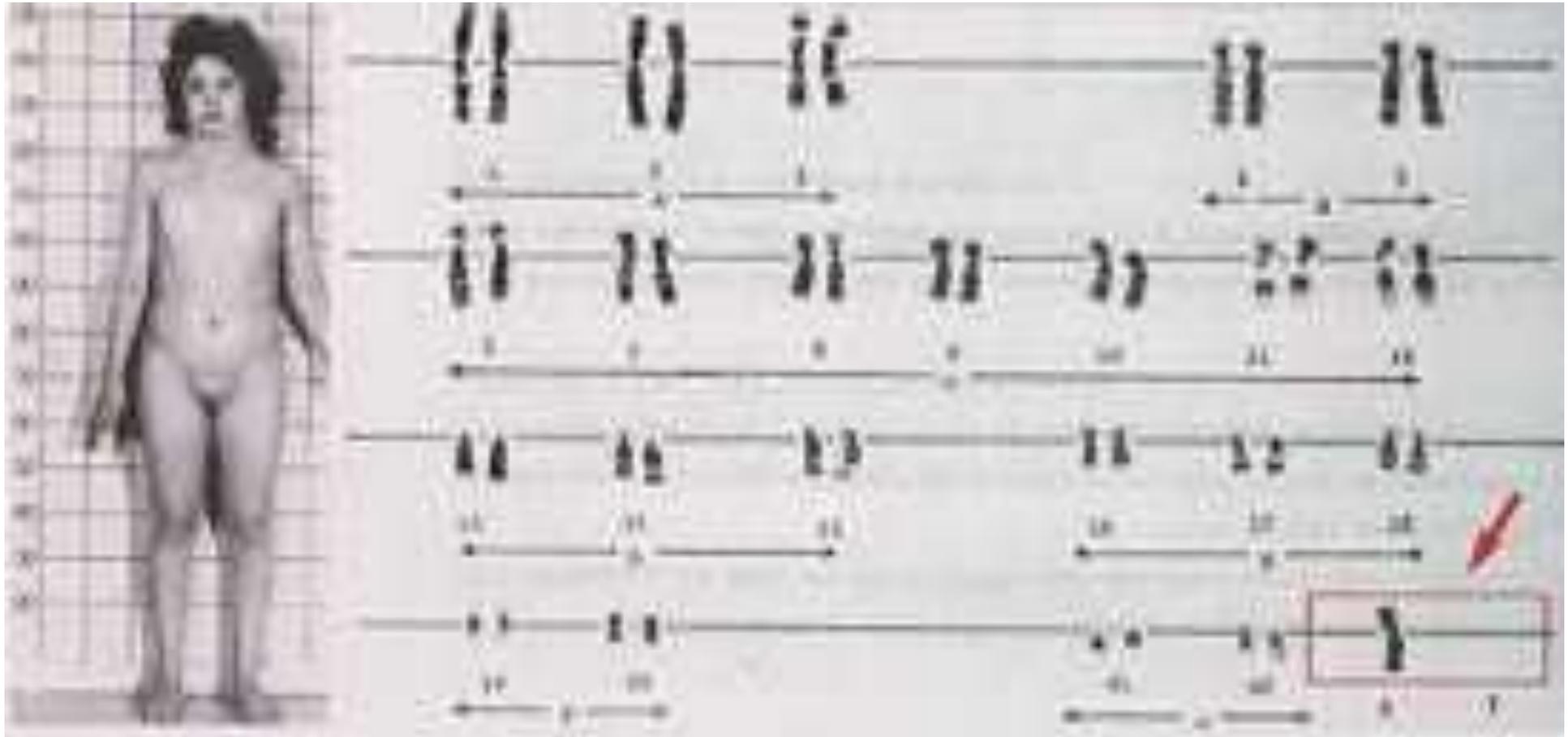


Determinação do sexo em mamíferos

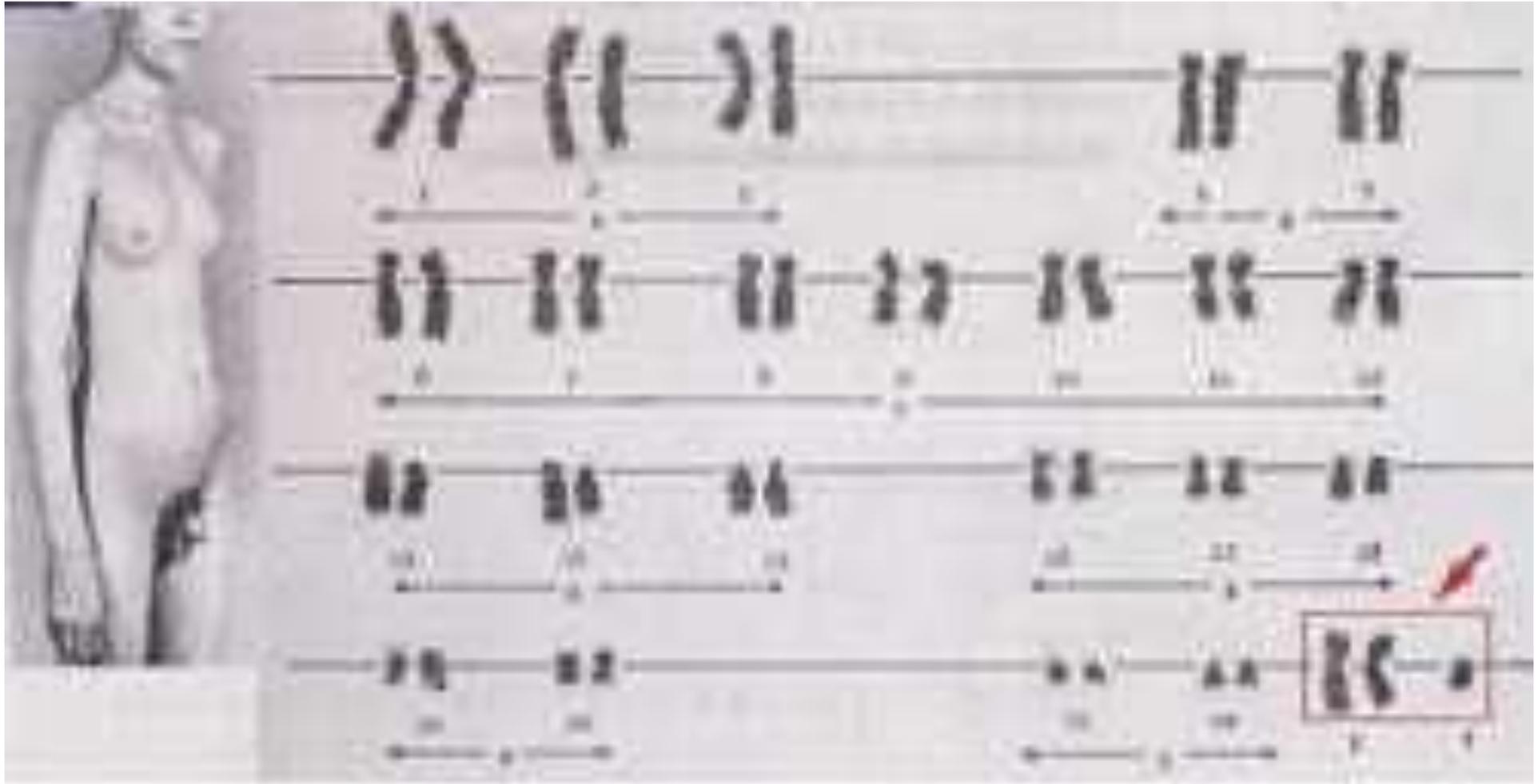


Determinação do sexo em mamíferos - síndromes

	X	XX	0
X	XX	Super-fêmea XXX	 X0 Turner
Y	XY	 Klinefelter XXY	Y0



Síndrome de Turner (XO); prevalência: 1/2500
> a causa principal será a não-disjunção meiótica paterna



Síndrome de Klinefelter (XXY); prevalência 1/600
> devido à não-disjunção num dos progenitores

Síndrome da super-fêmea e do super-macho:

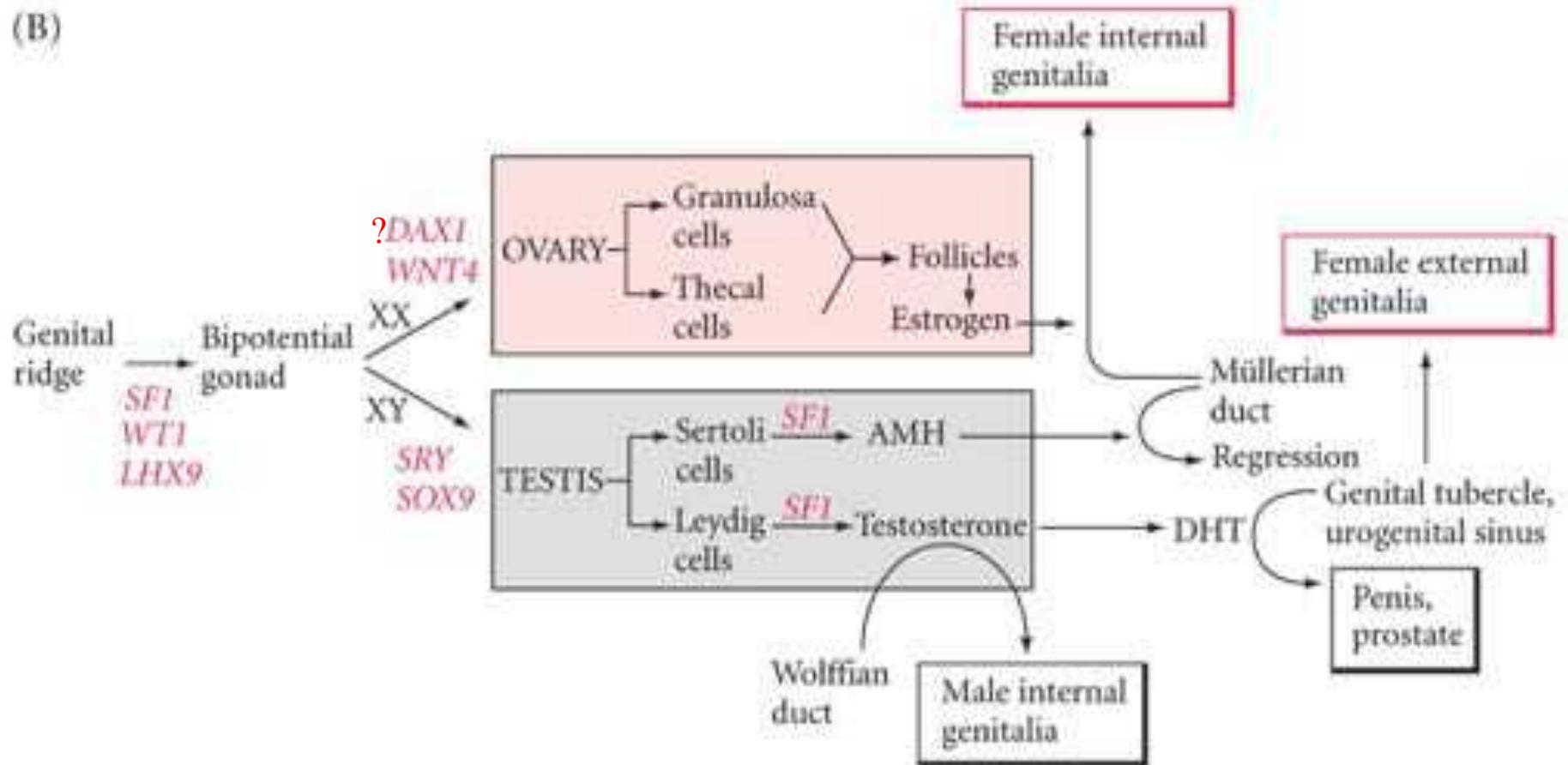
Ao contrário de trissomias em autossomos, trissomias nos cromossomos sexuais tem consequências pouco severas. Os indivíduos não apresentam sintomas muito marcados e tem expectativa de vida normal.

Super-fêmea (XXX); prevalência 1/1000
> devido à não-disjunção meiótica materna

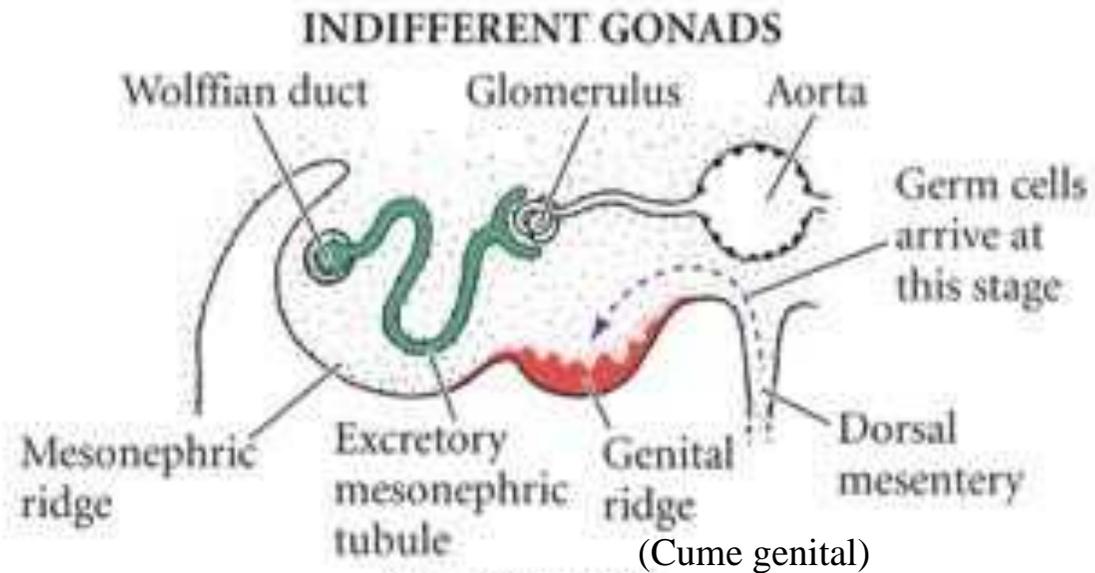
Super-macho (XYY); prevalência 1/1000
> devido à não-disjunção meiótica paterna

Determinação do sexo em mamíferos

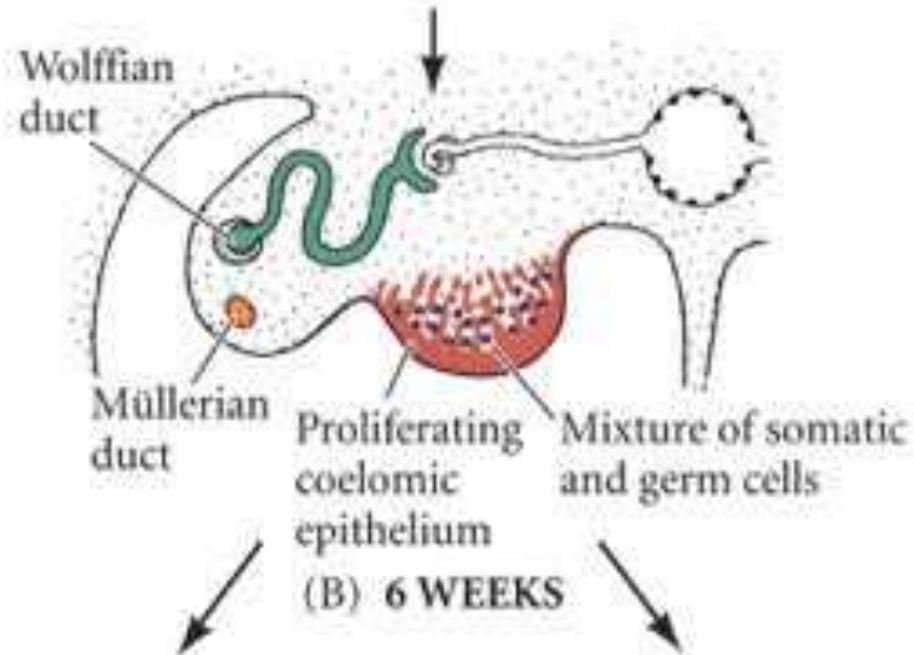
(B)



Diferenciação das gônadas humanas (primórdio gonadal)

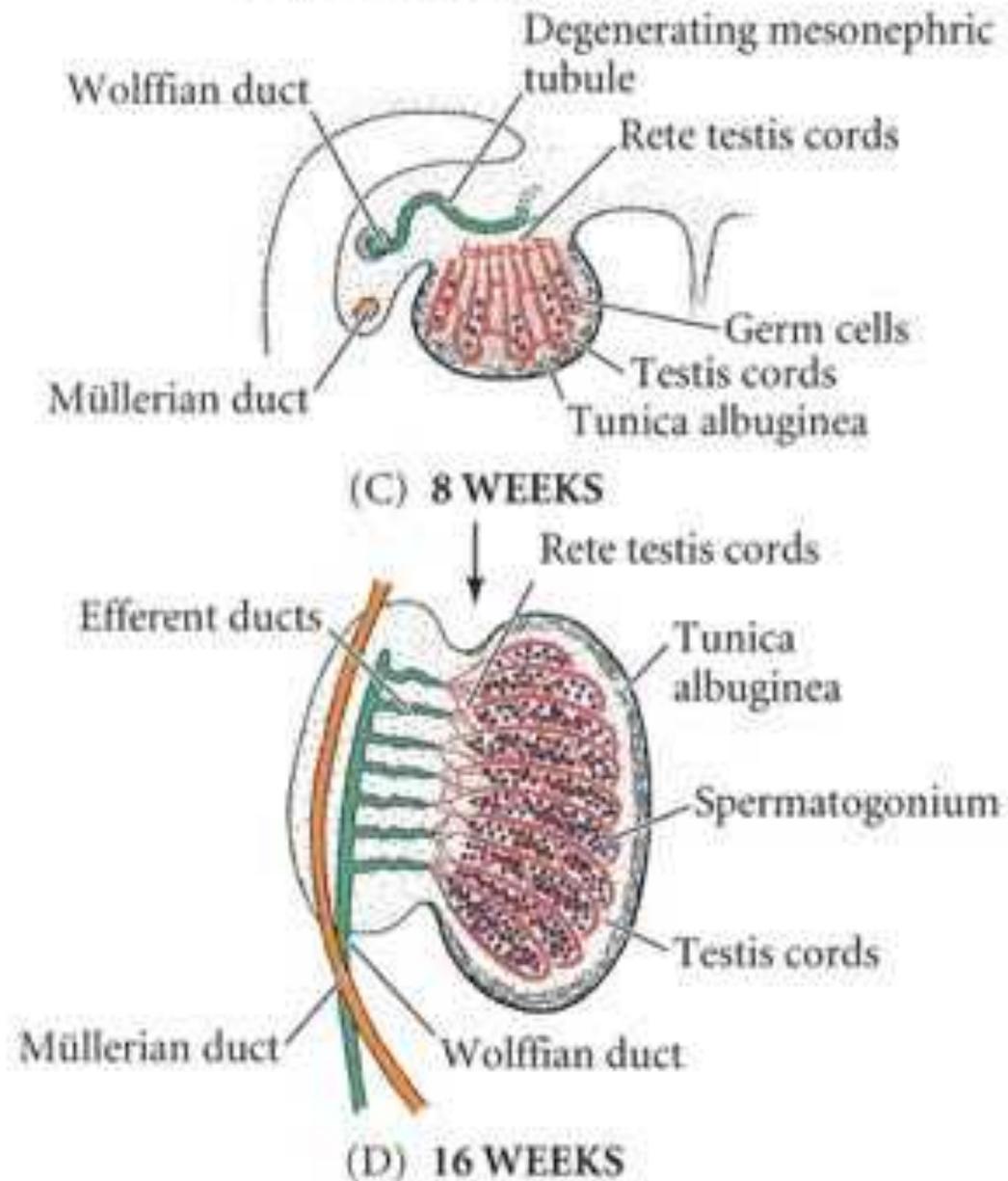


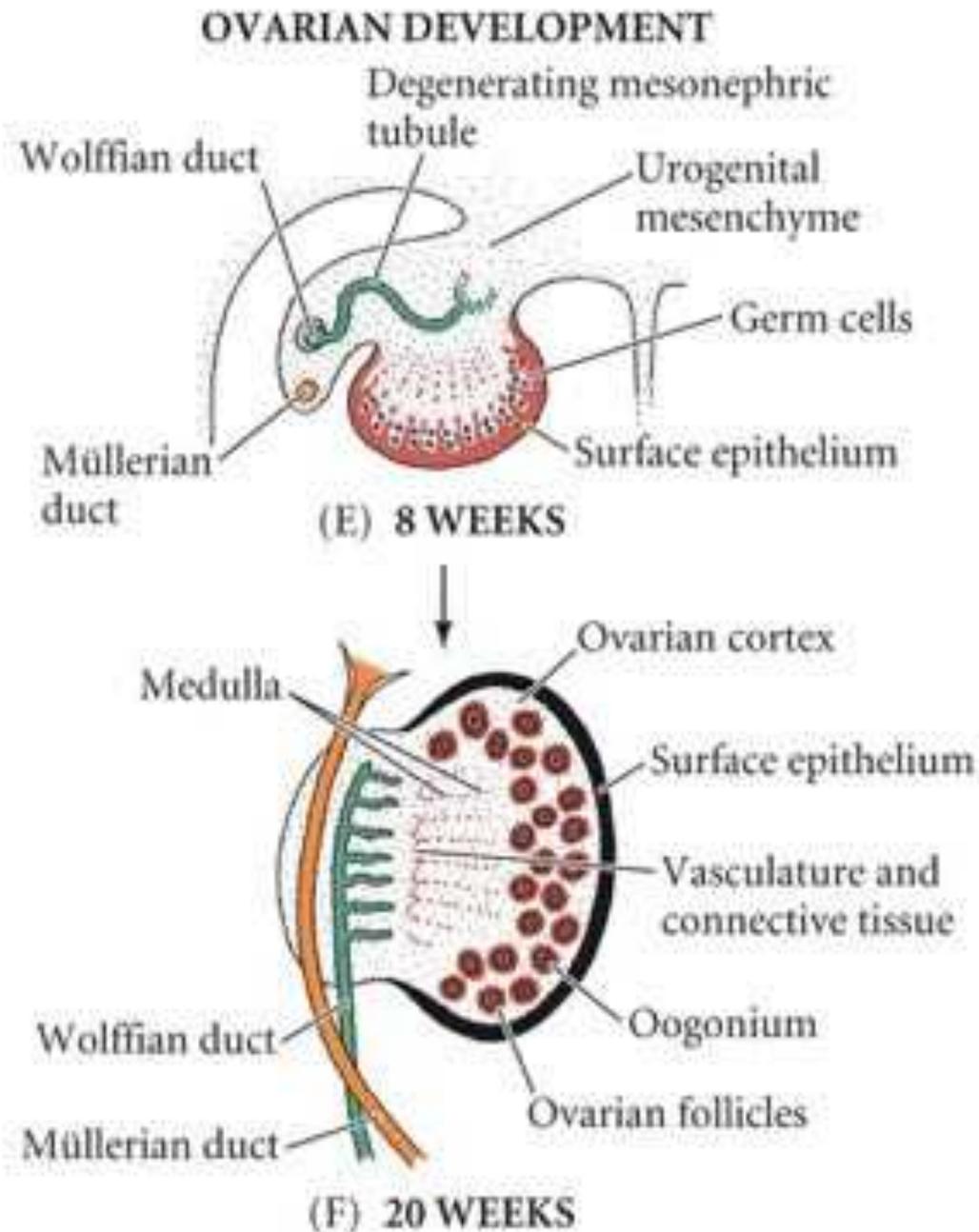
(A) 4 WEEKS

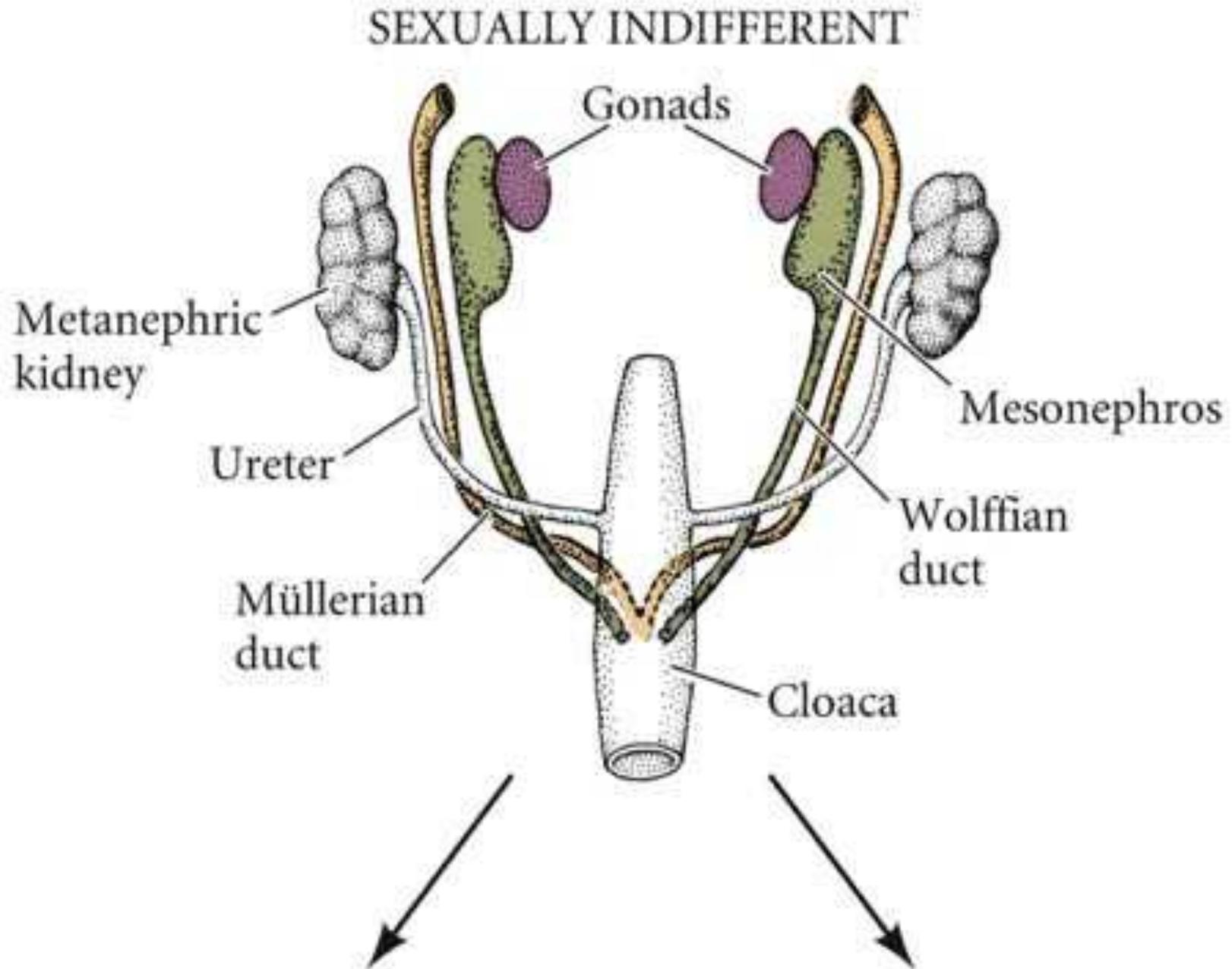


(B) 6 WEEKS

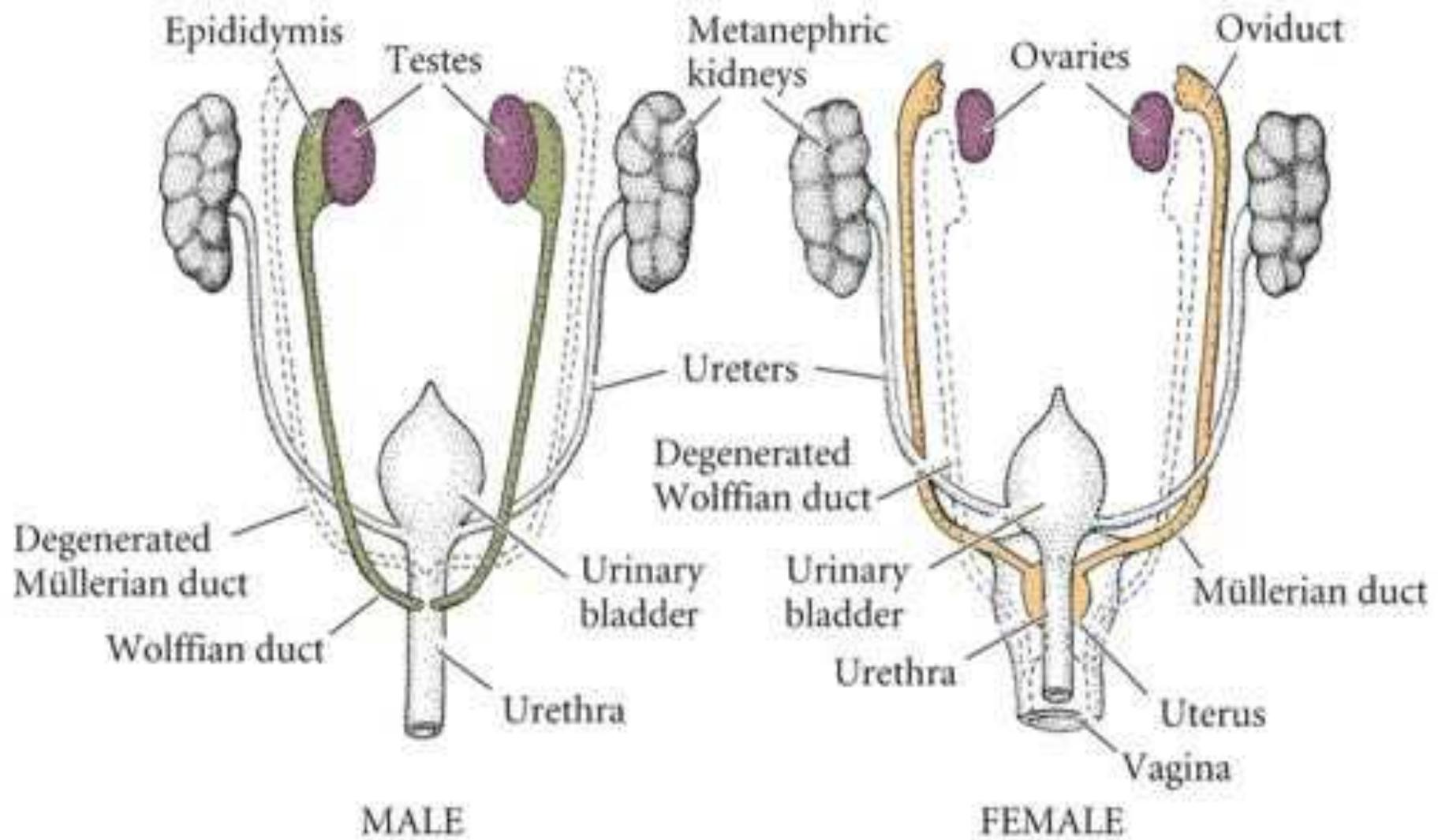
TESTIS DEVELOPMENT







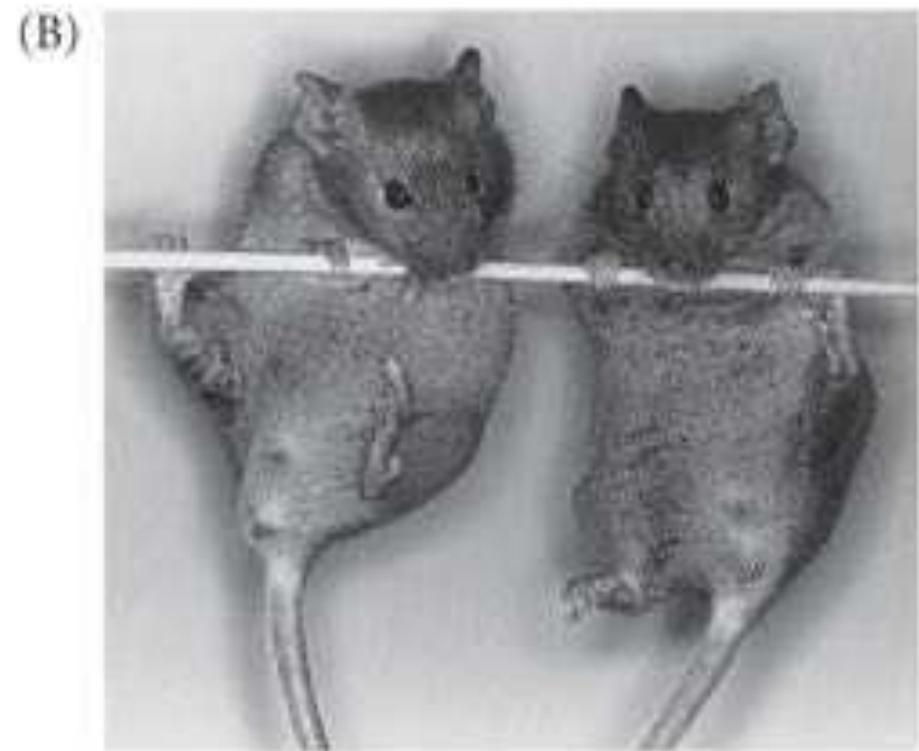
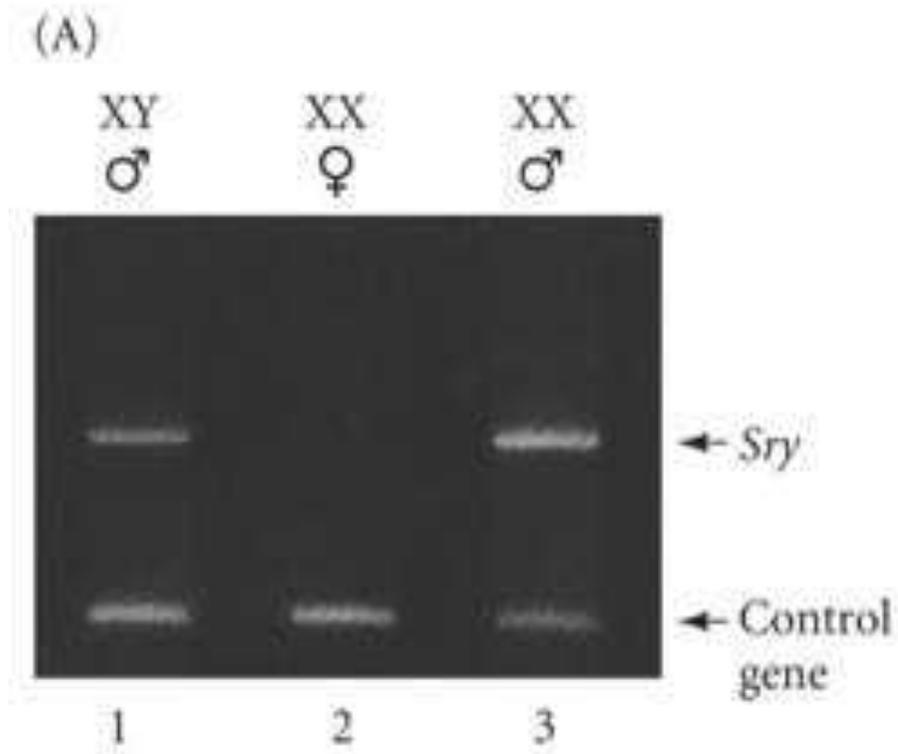
Desenvolvimento das gônadas e ductos gonadais em mamíferos (Parte 2)



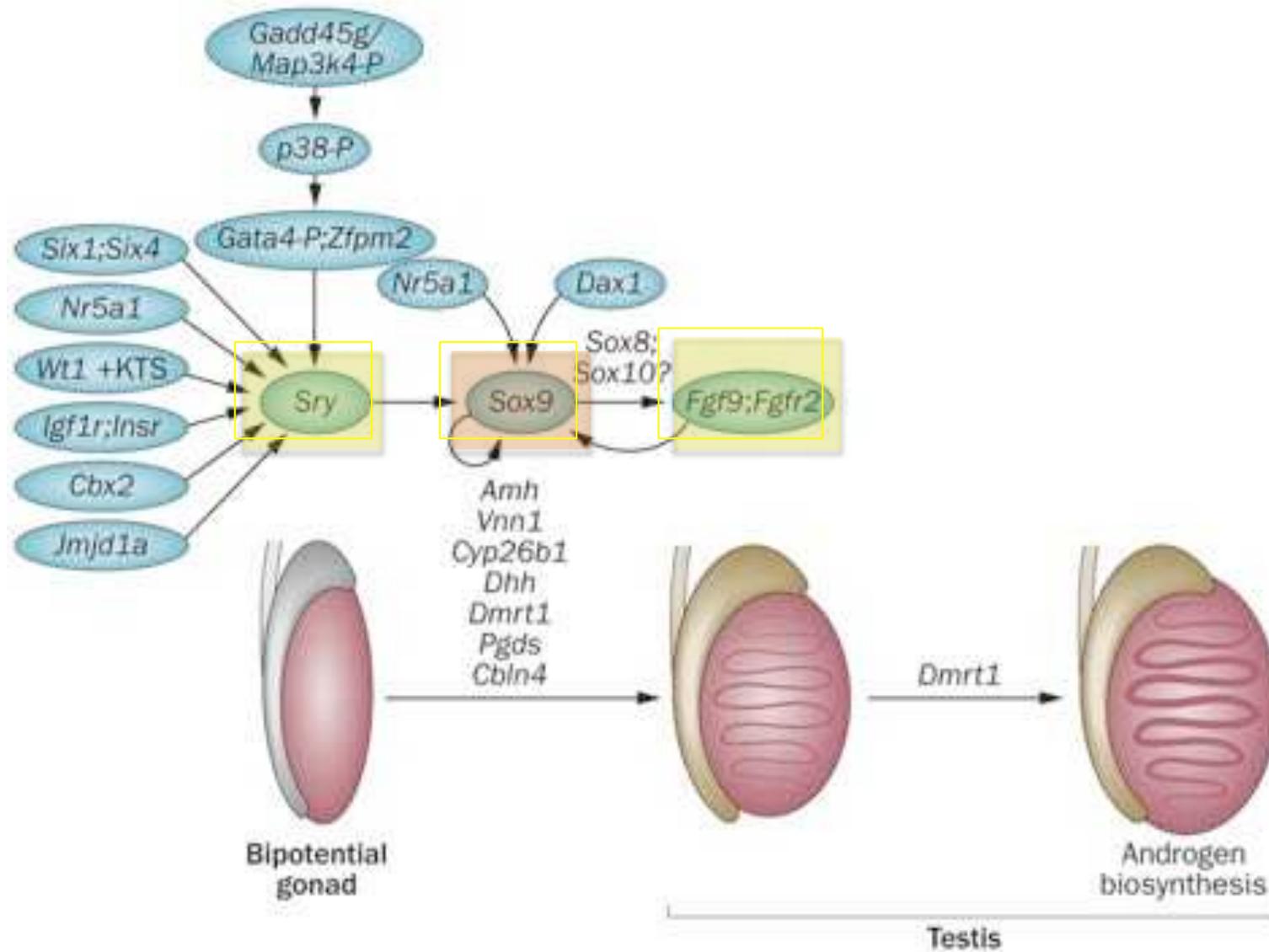
Desenvolvimento das gônadas e ductos gonadais em mamíferos (Parte 3)

GONADS Gonadal type Germ cell location	Testis Inside testis cords	Ovary Inside follicles of ovarian cortex
DUCTS Remaining duct Duct differentiation	Wolffian Vas deferens, epididymis, seminal vesicle	Müllerian Oviduct, uterus, cervix, upper portion of vagina

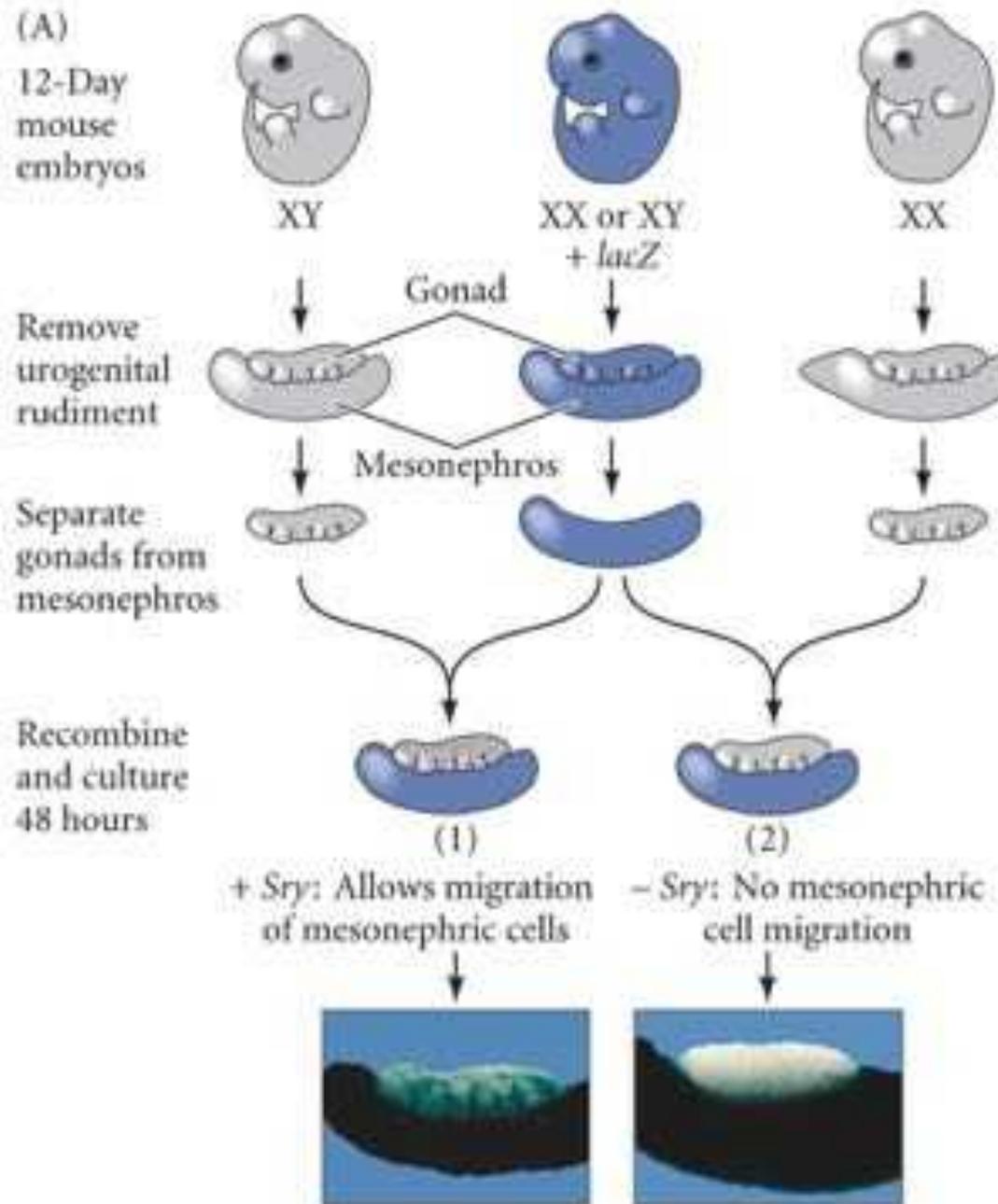
Camundongo XX com transgene *Sry* é macho



Genes reguladores da gônada masculina



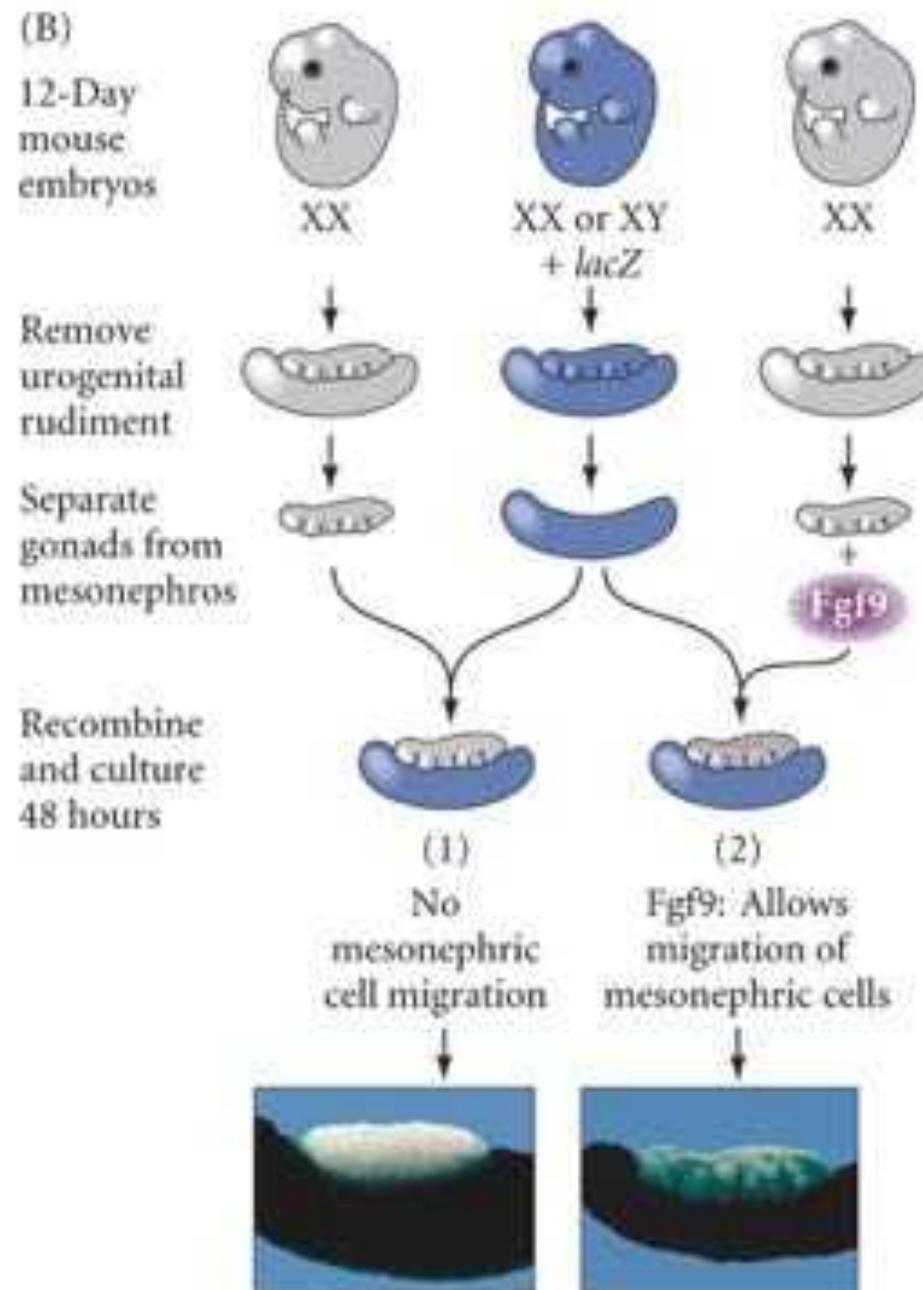
Migração de células mesonéfricas em rudimentos gonadais *Sry*⁺ (Parte I)



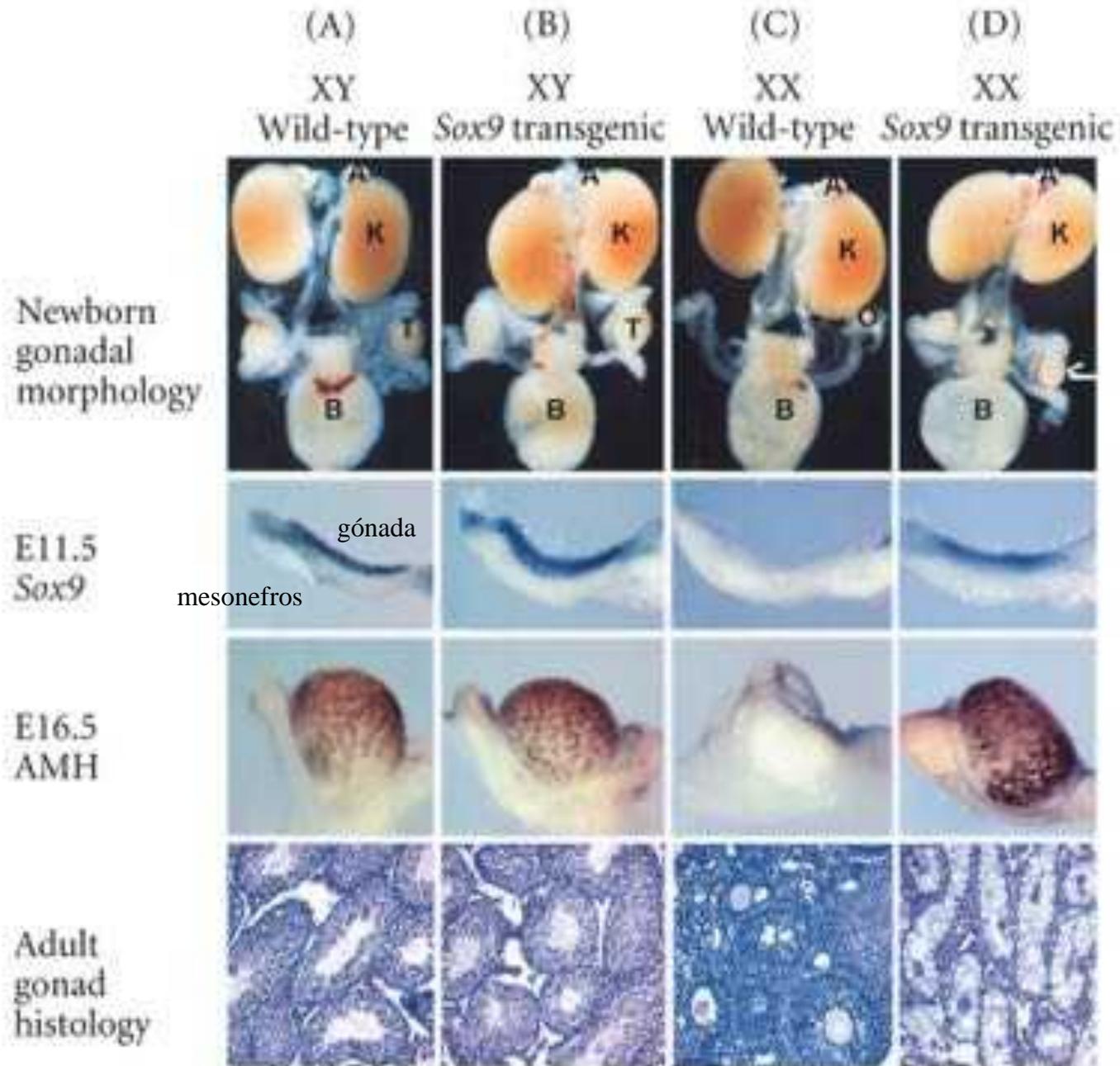
(C)



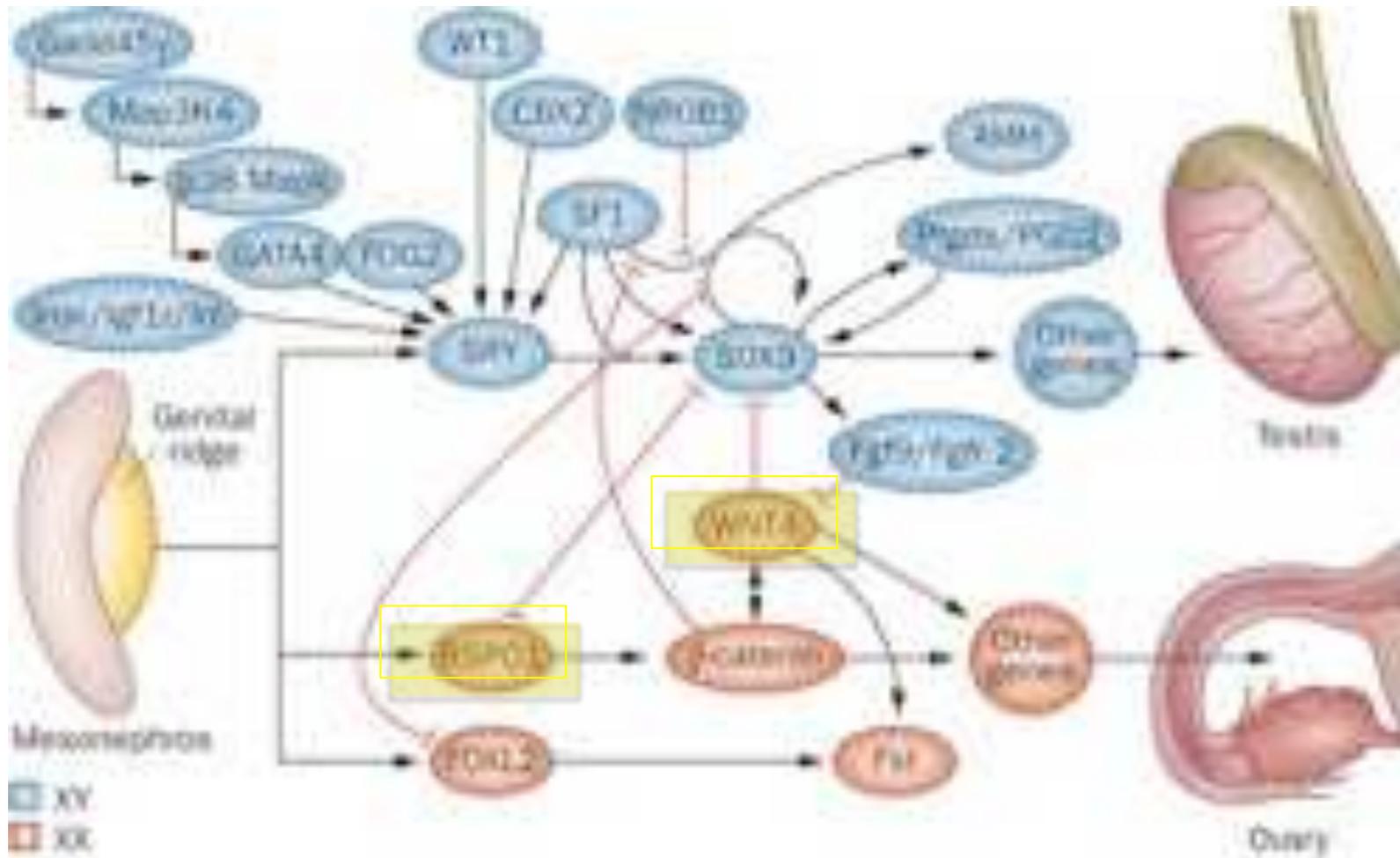
Migração de células mesonéfricas em rudimentos gonadais *Sry*⁺ (Parte II)

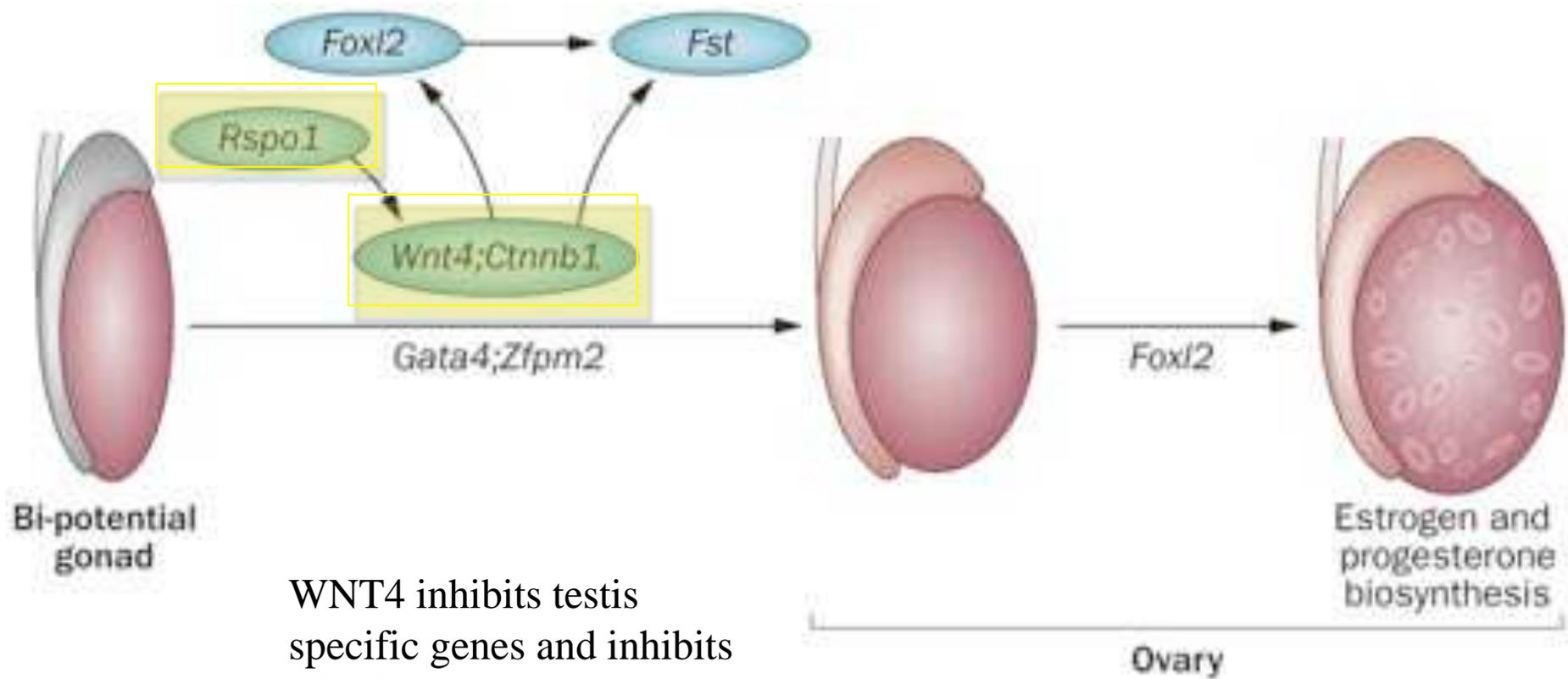


Capacidade de Sox9 de gerar testículos



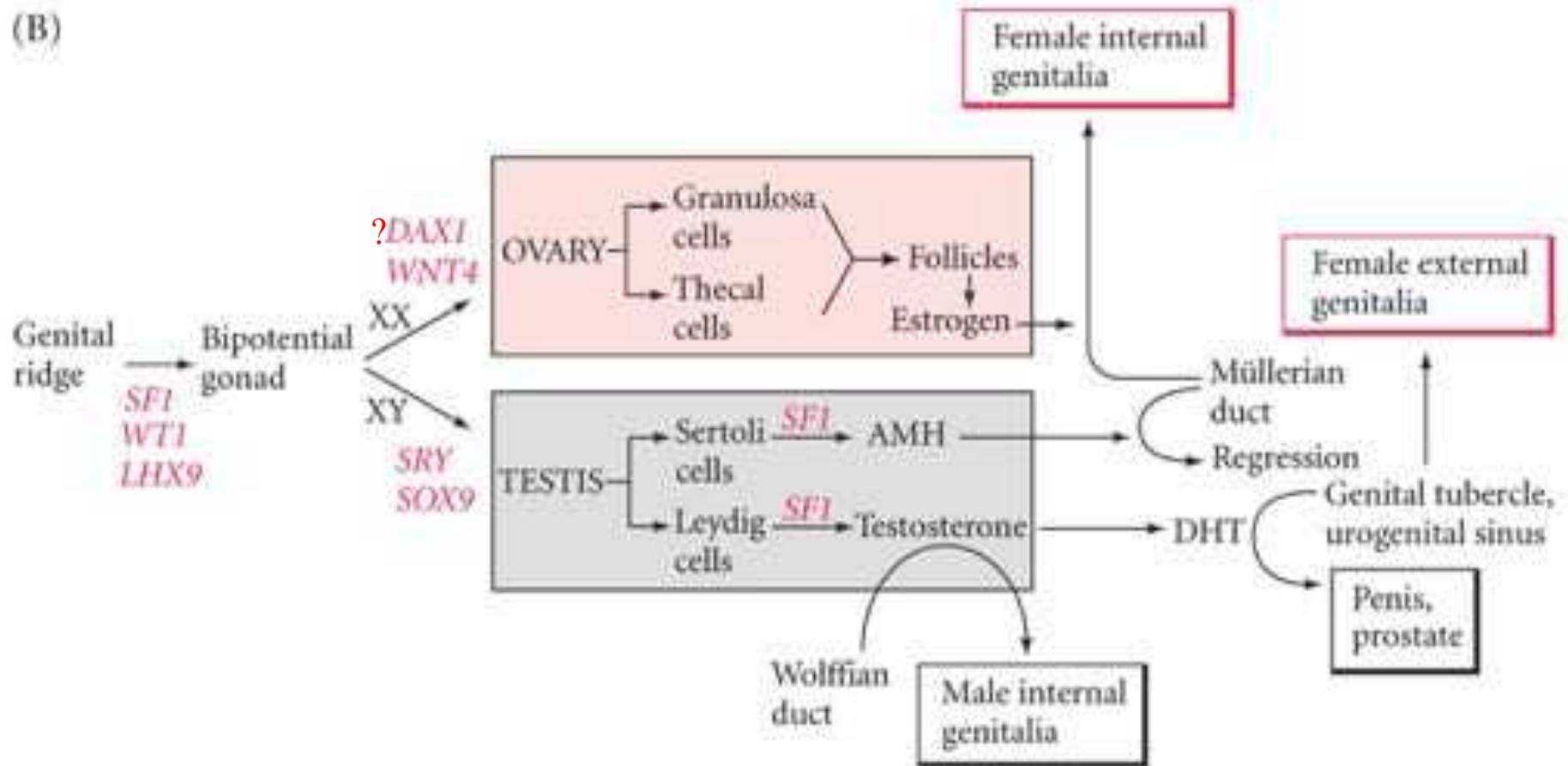
Mecanismo proposto para a determinação do sexo primário em mamíferos





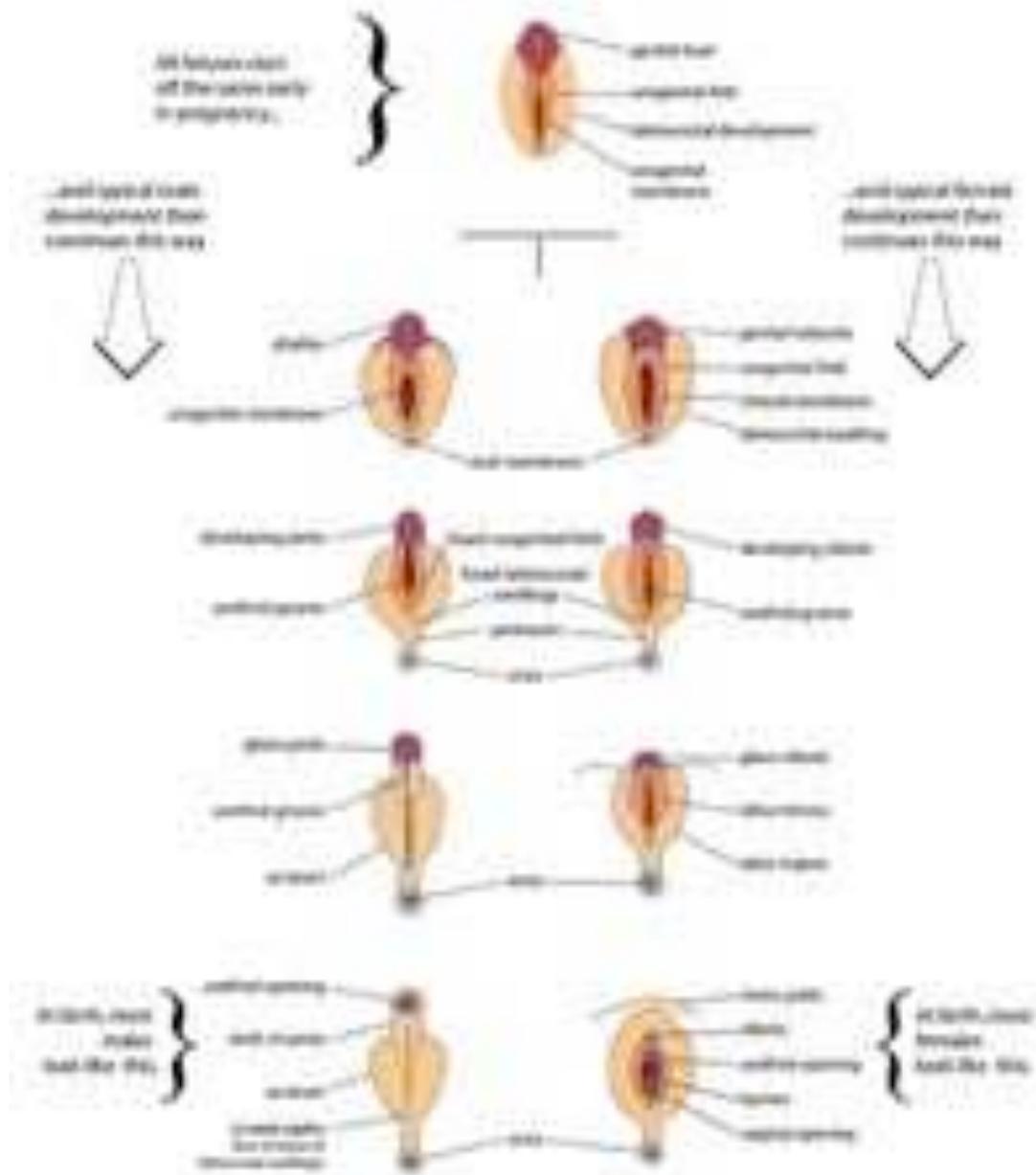
WNT4 inhibits testis specific genes and inhibits AMH and Testosterone, and induces ovarian differentiation

(B)

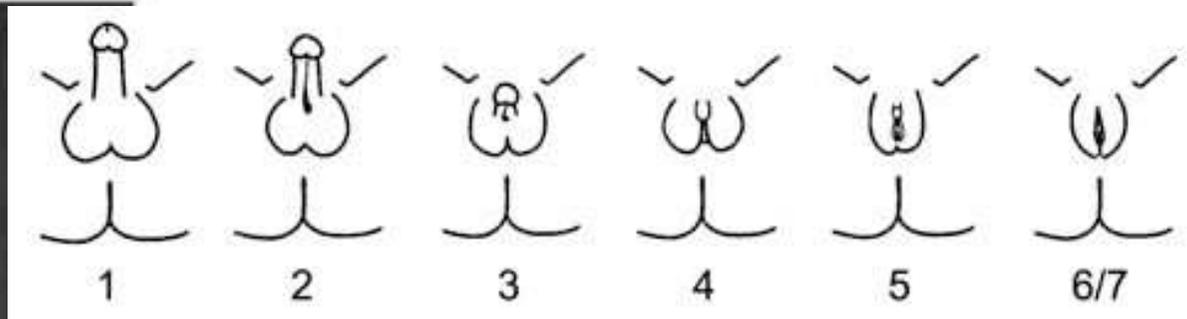
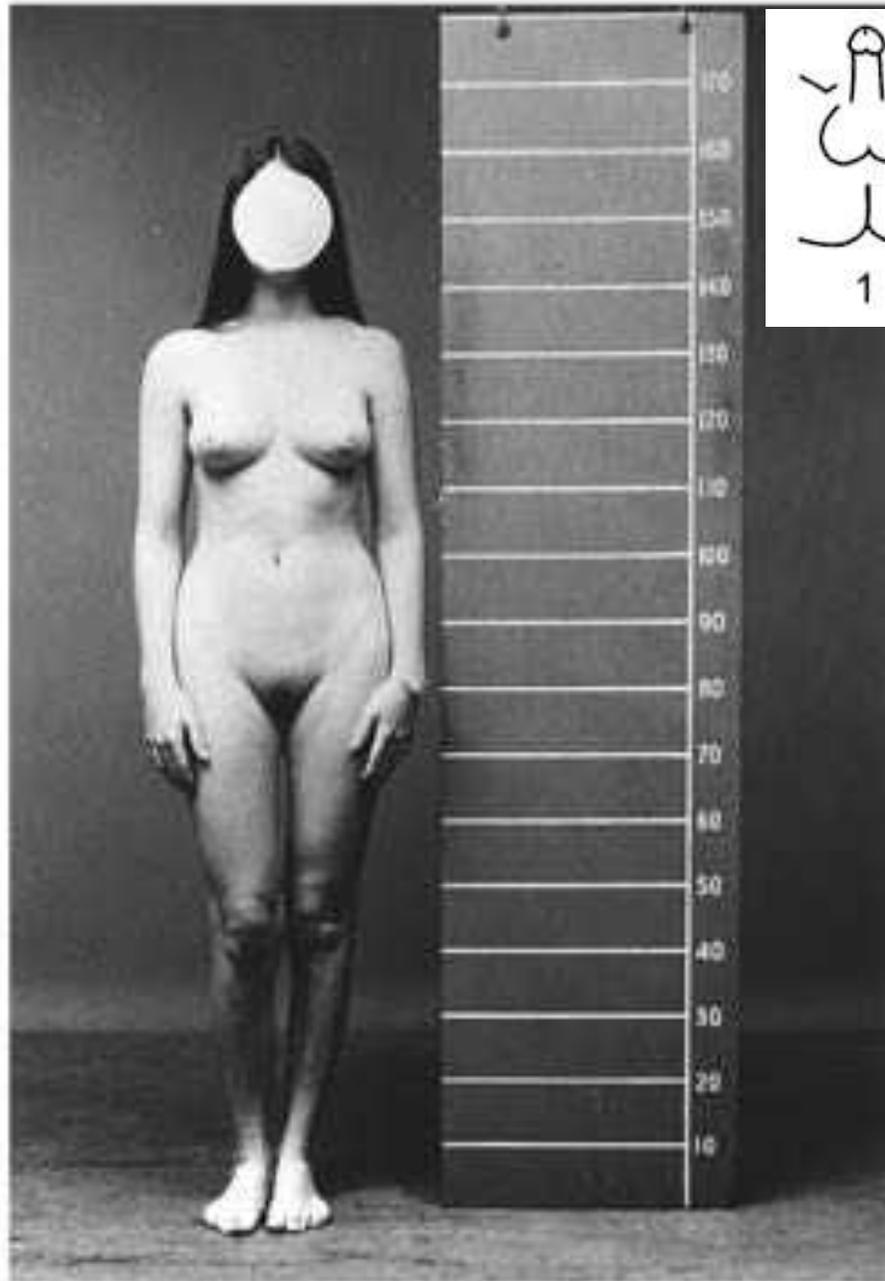


Hormônios regulam a formação dos caracteres sexuais secundários

Genitalia externa

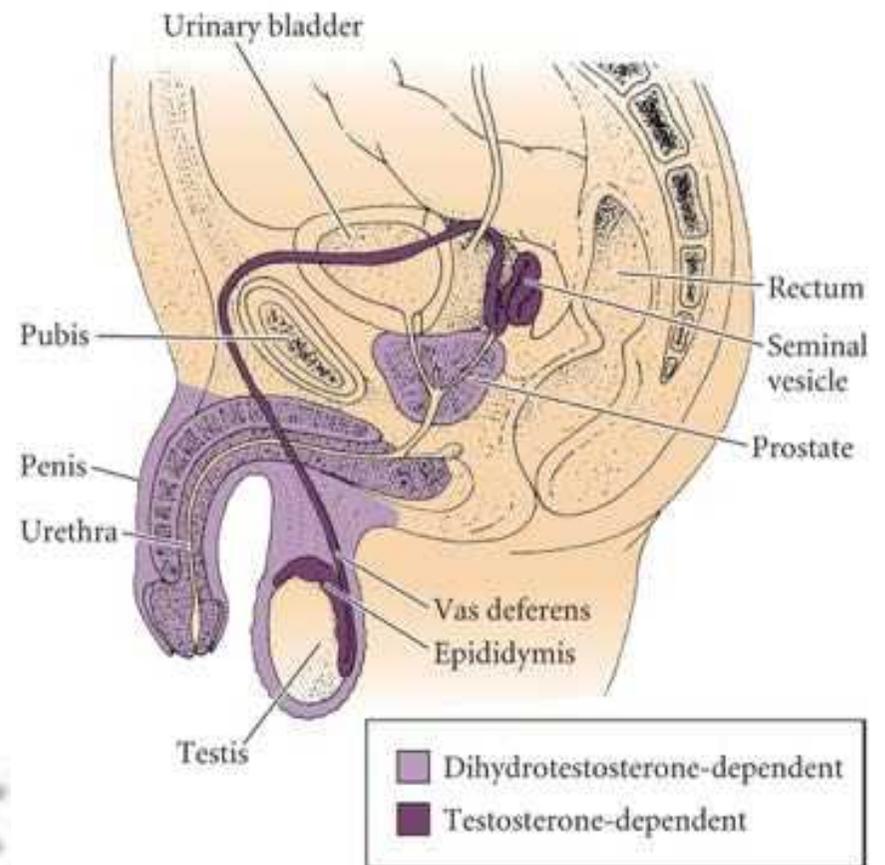
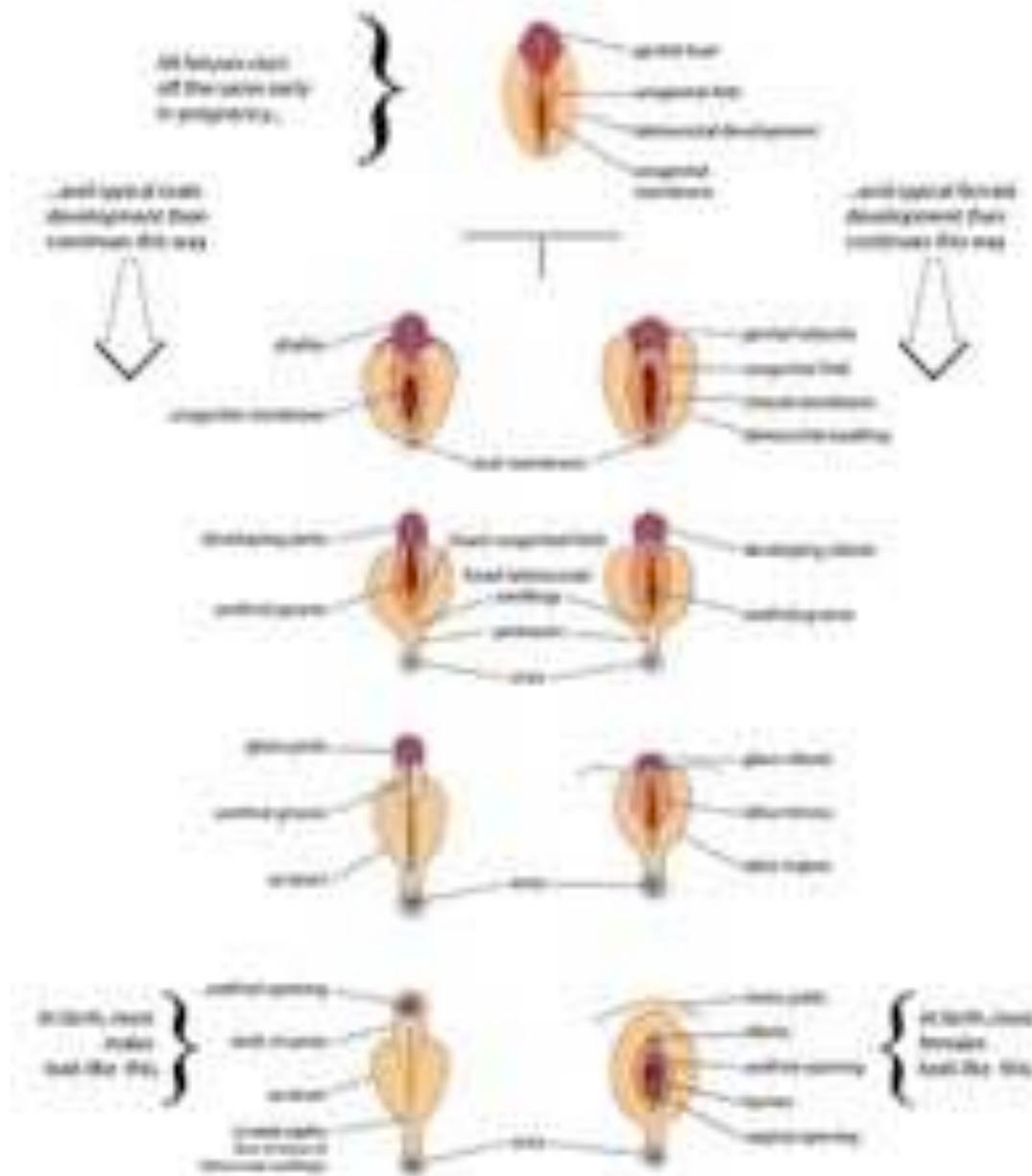


Indivíduos XY com síndrome de insensibilidade a andrógenos



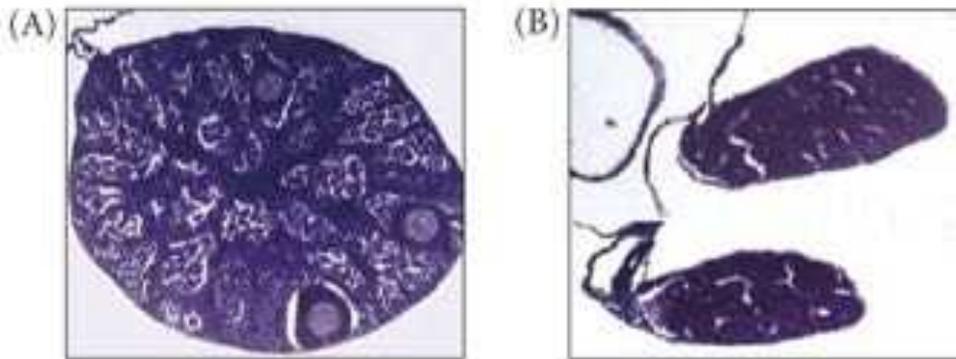
“Women with AIS and related DSD conditions who want AIS to be represented by real, proud people instead of stigmatizing pictures where the face has been removed.”

Regiões da genitália masculina dependentes de testosterona - é dihydrotestosterona

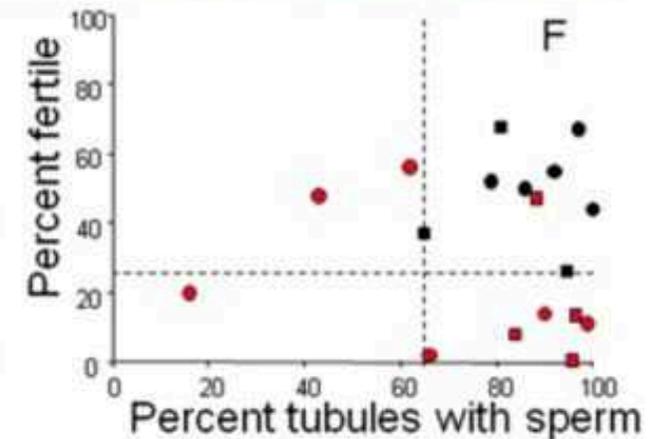
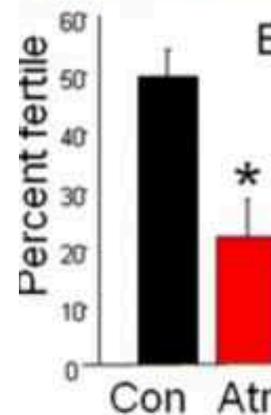
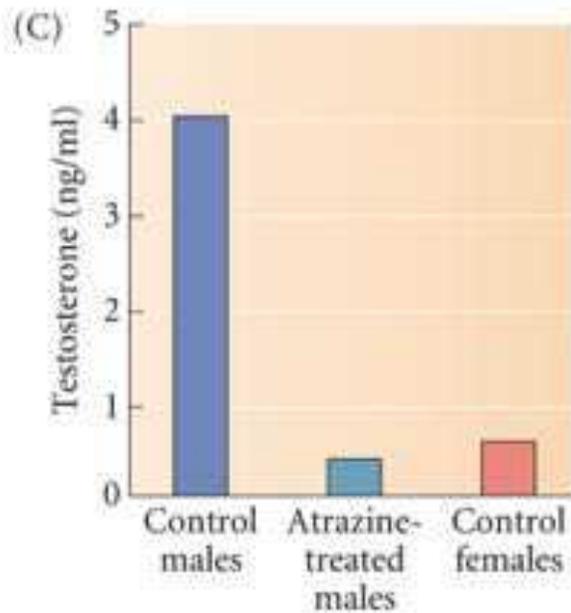
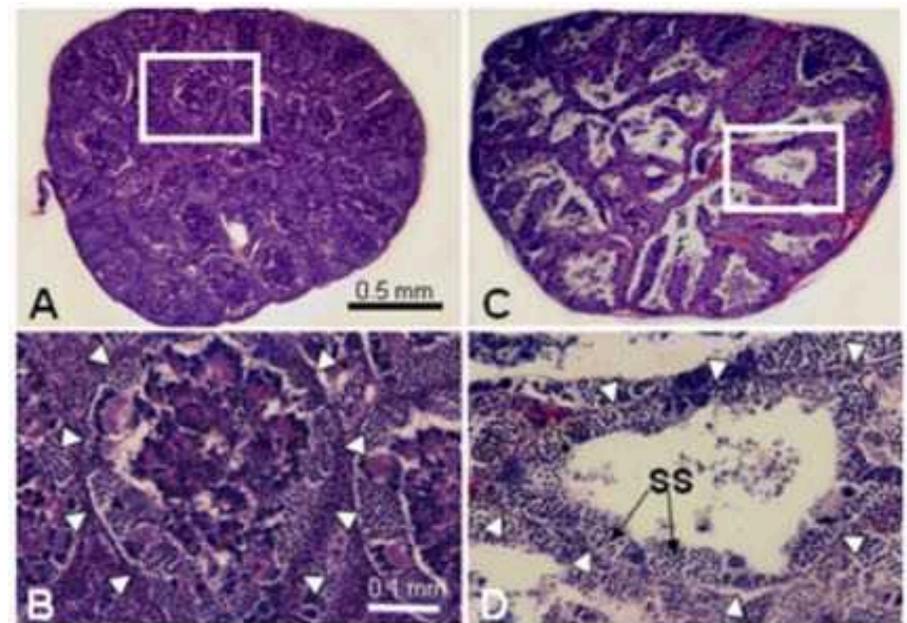


Atrazine effect on male gonads:

demasculinization of gonads:

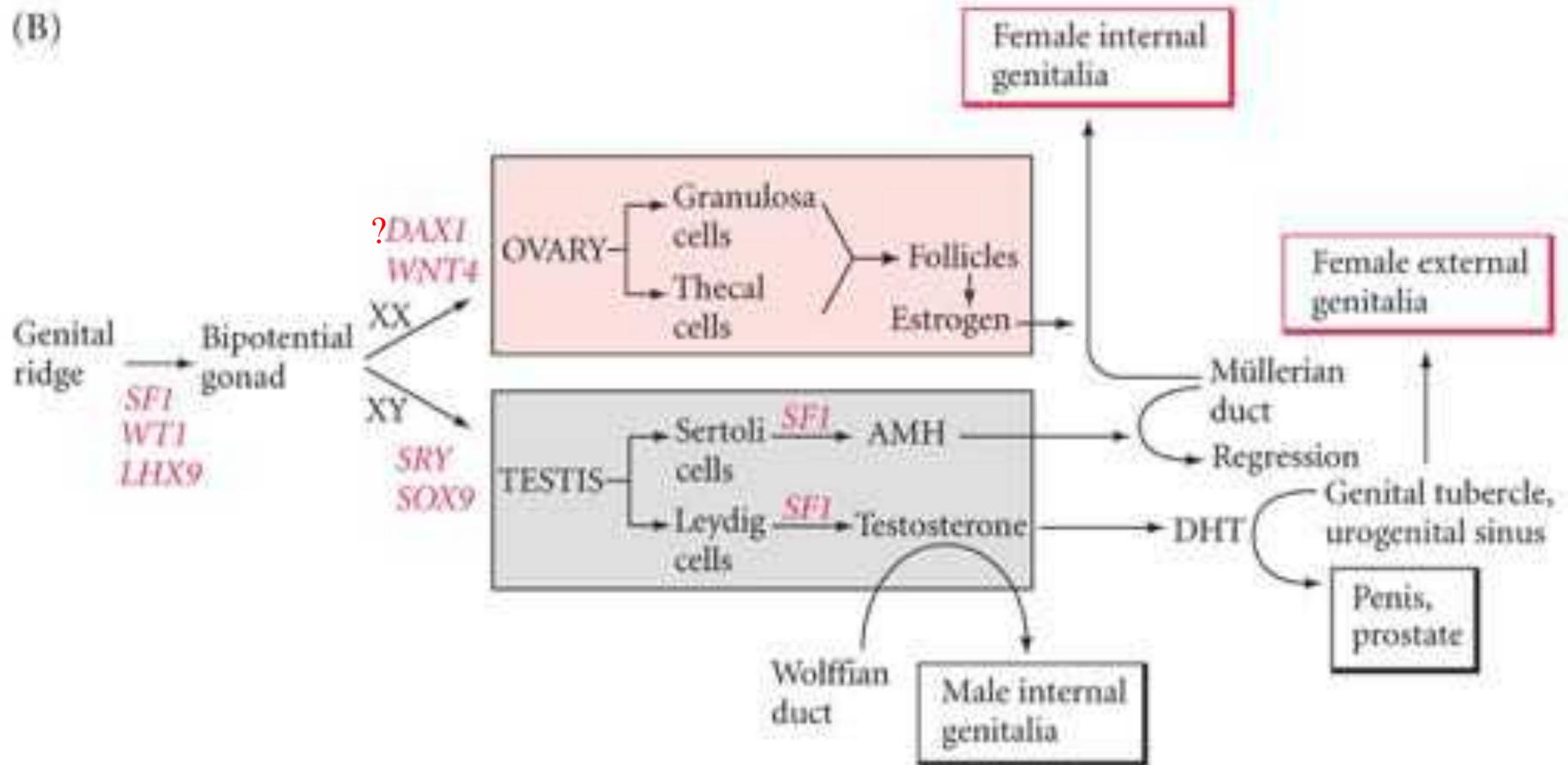


fertility of male gonads:

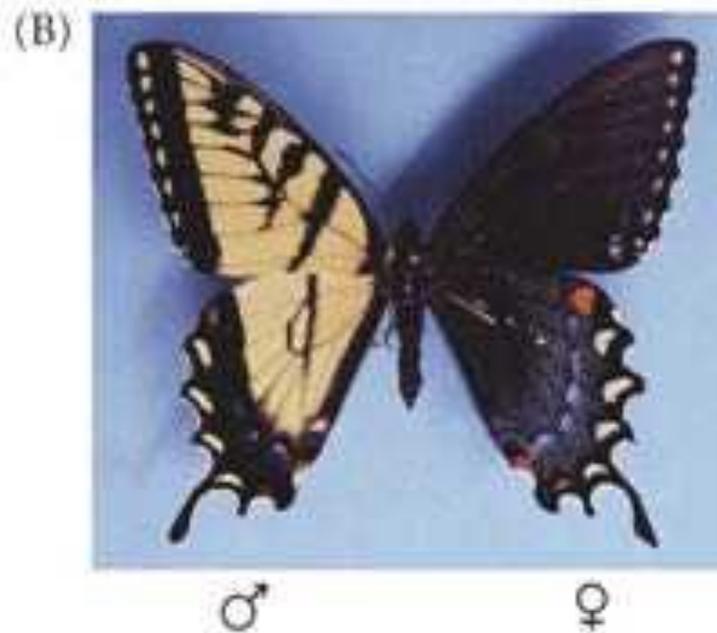
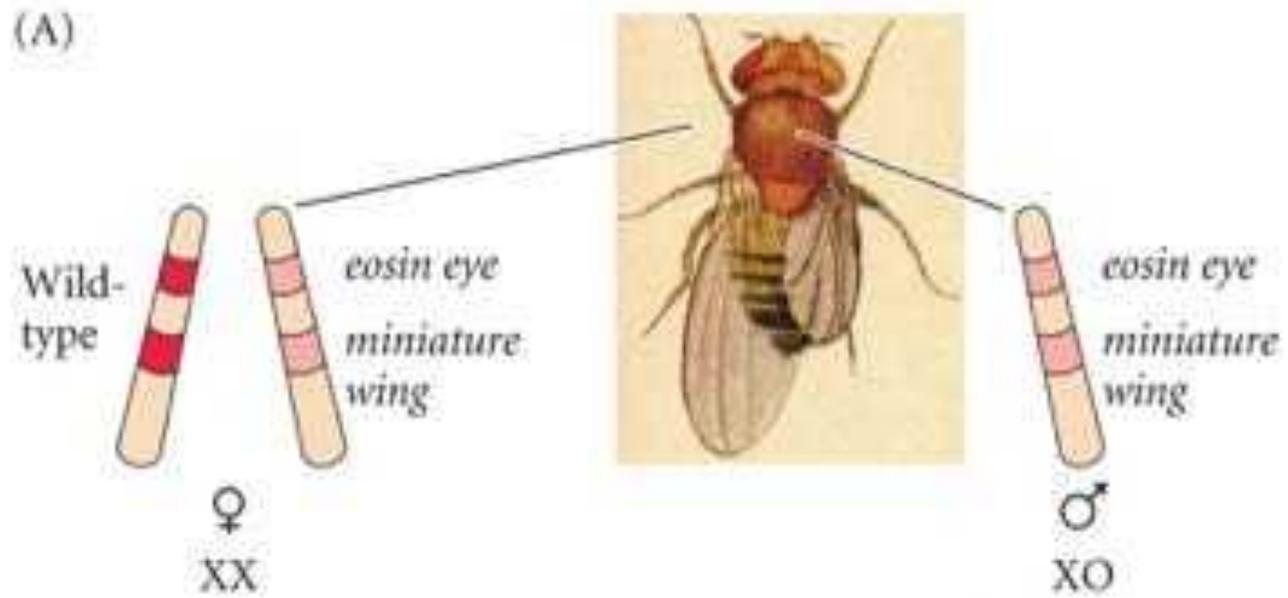


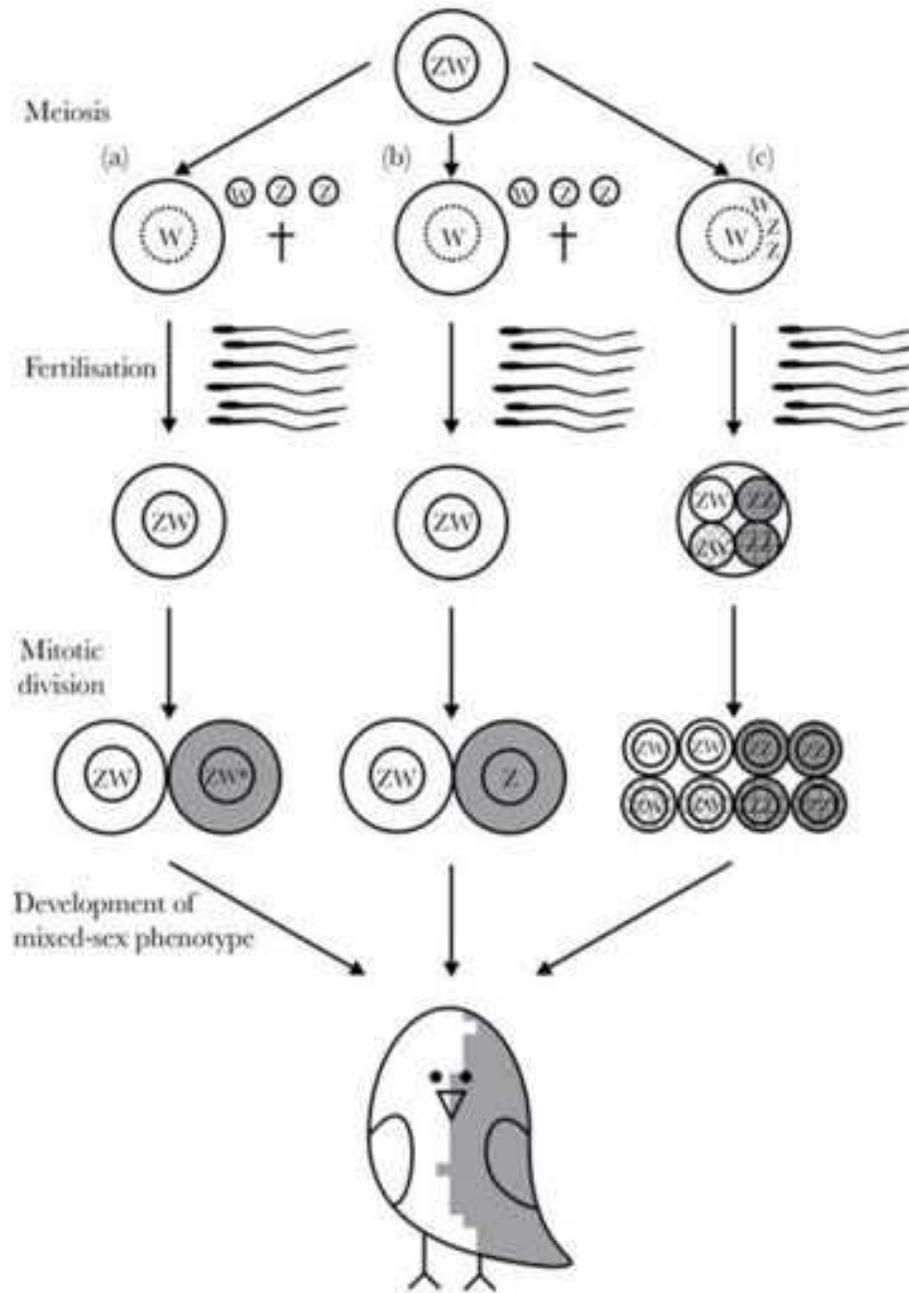
Determinação do sexo em mamíferos

(B)

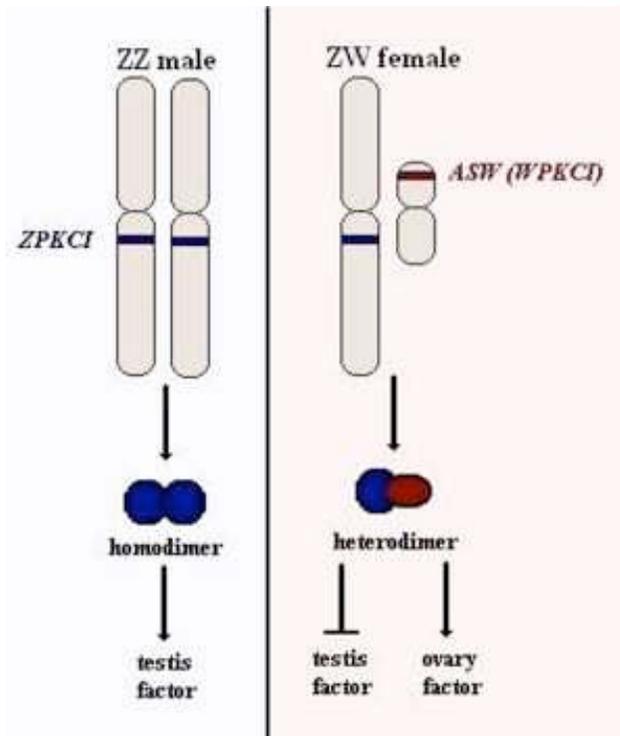


Insetos ginandromorfos

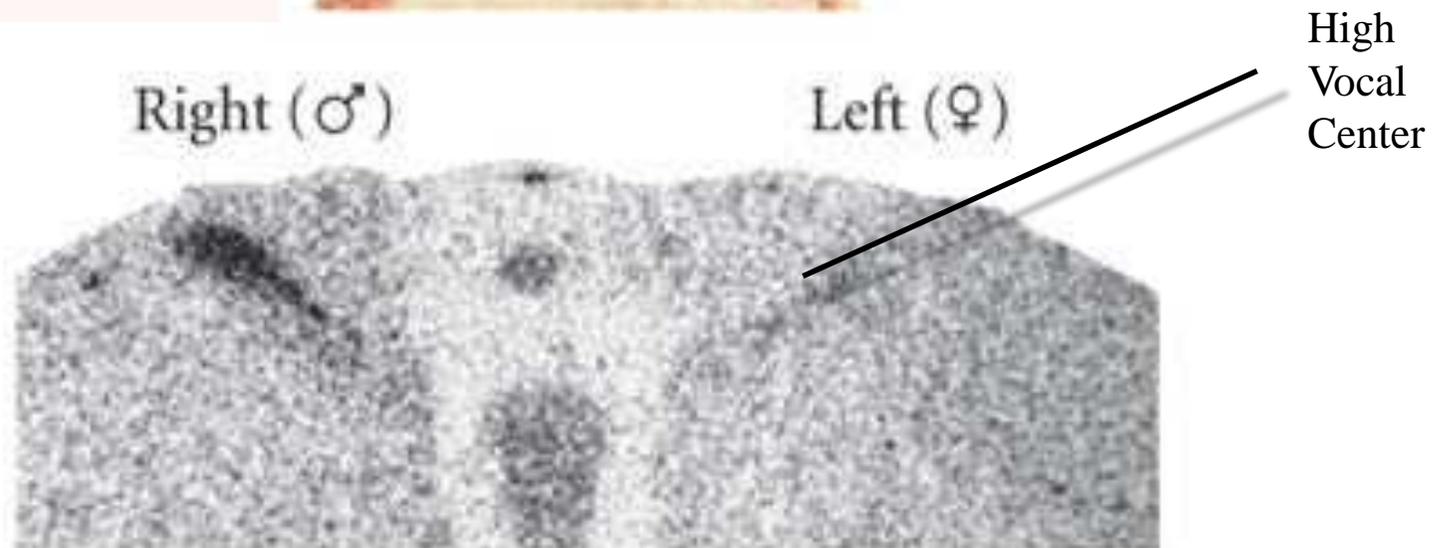




Tentilhão ginandromorfo com células ZZ (macho) na direita, e células ZW (fêmea) na esquerda



Manolakou et al. 2006



AR
in situ hybridization

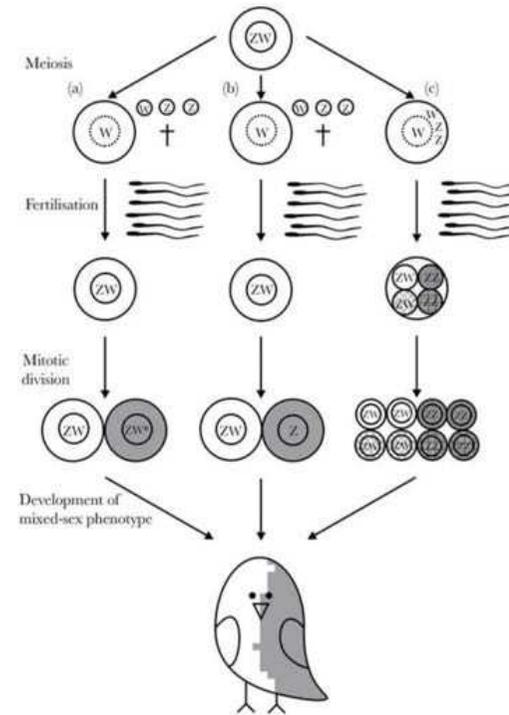


Vol 464 | 11 March 2010 | doi:10.1038/nature08852

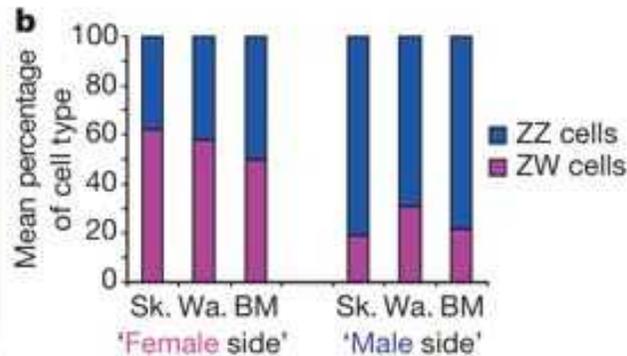
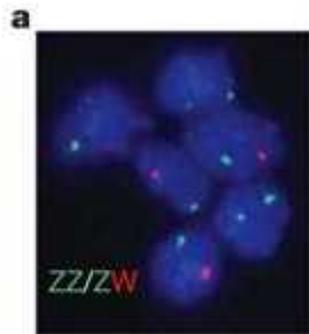
nature

Somatic sex identity is cell autonomous in the chicken

D. Zhao^{1*}, D. McBride^{1*}, S. Nandi¹, H. A. McQueen³, M. J. McGrew¹, P. M. Hocking², P. D. Lewis¹, H. M. Sang¹ & M. Clinton¹



?





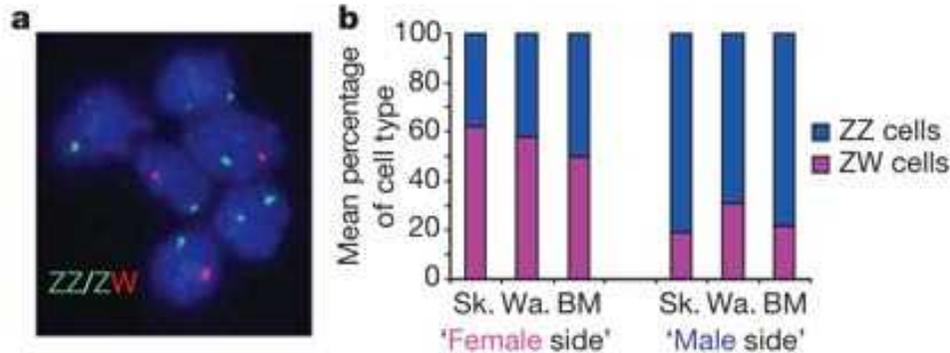
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“In other words, the chicken was essentially formed of two, non-identical twins, fused down the centre” M. Clinton.



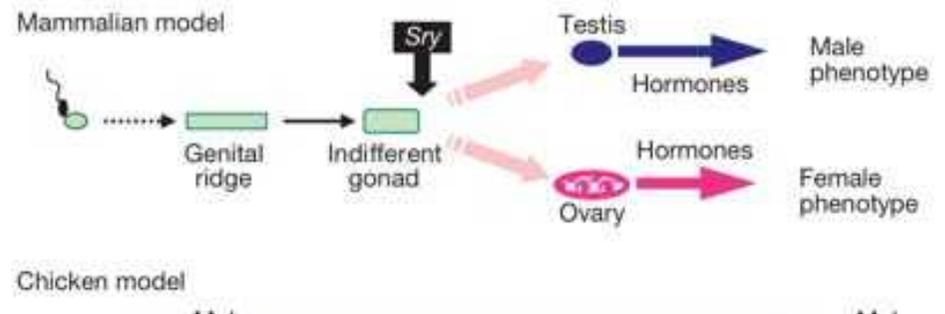
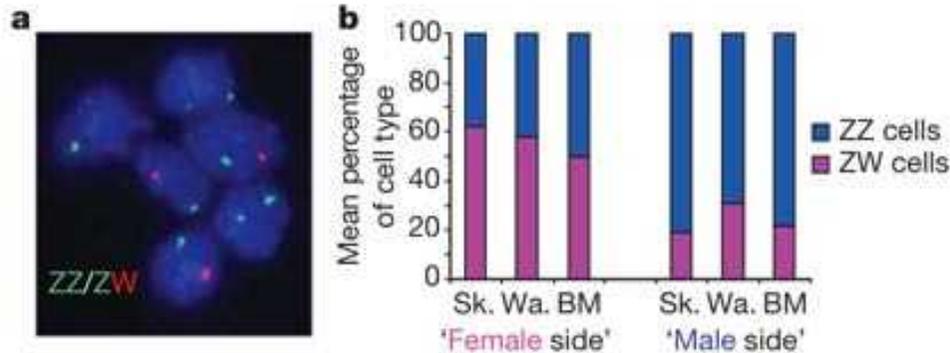
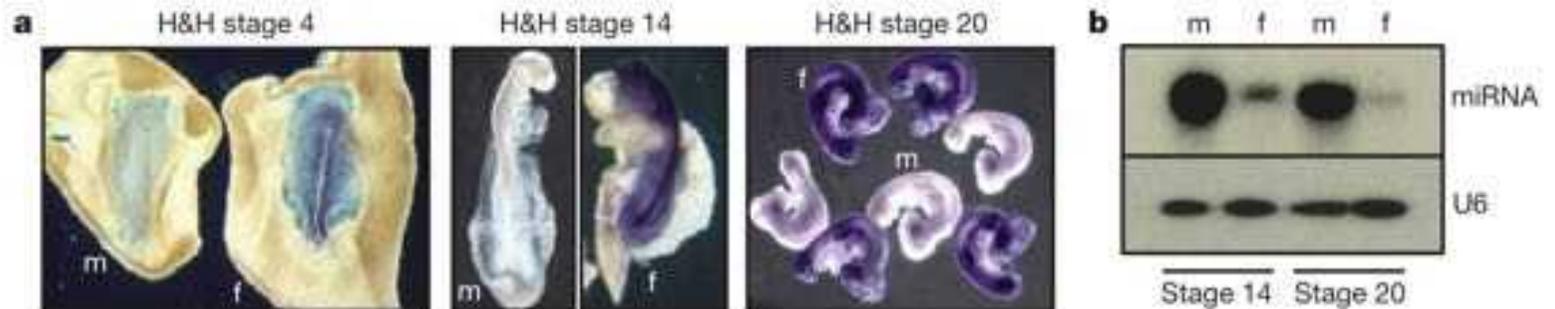


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FAF expression:

mir-2954 expression:



?



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