

Gametogénesis

Control hormonal



Andrógenos

Hormonas Testiculares

Testosterona

Dehidroepiandrosterona (DHT)

Androstenediona

Espermatogénesis

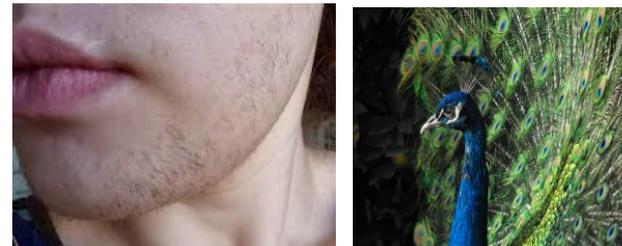
Caracteres sexuales secundarios masculinos

Células de Leydig

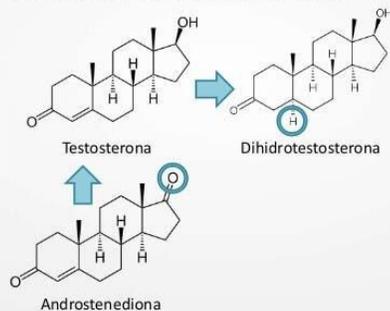
Células de la teca

Placenta

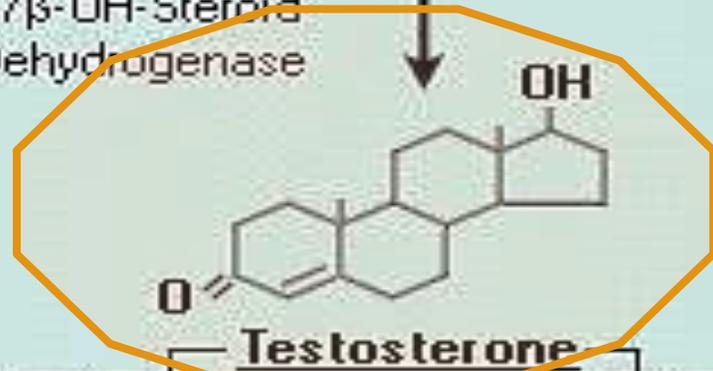
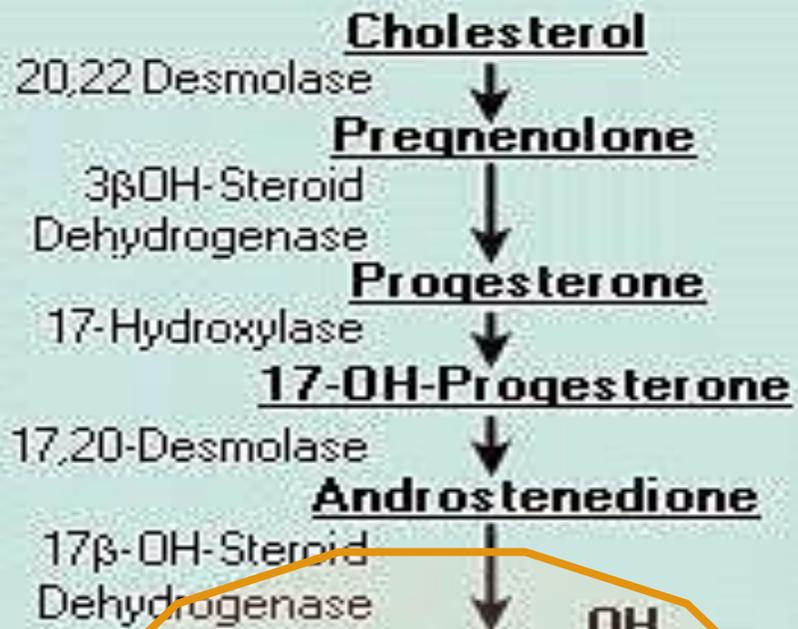
Glándulas suprarrenales



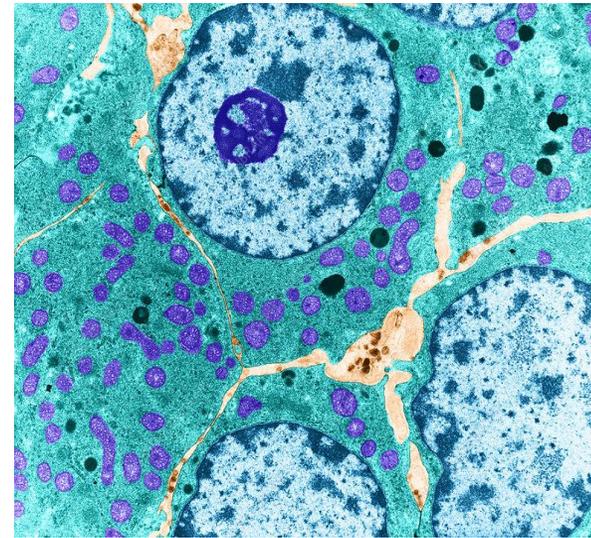
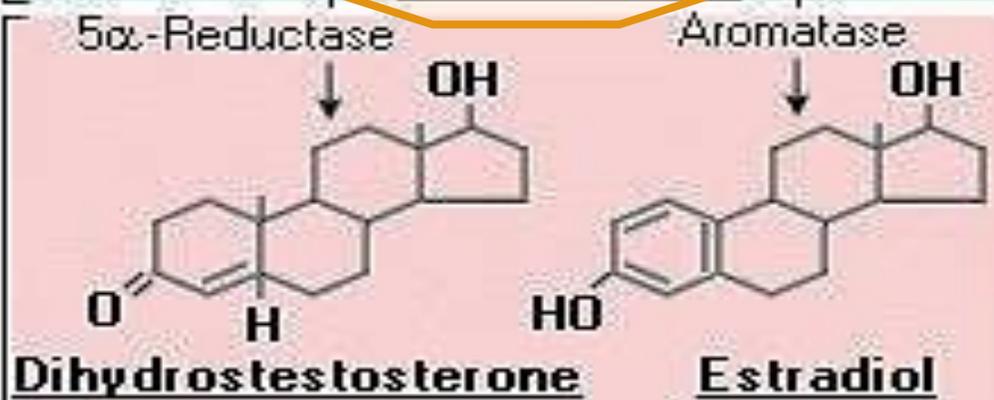
Estructura química de los andrógenos naturales:



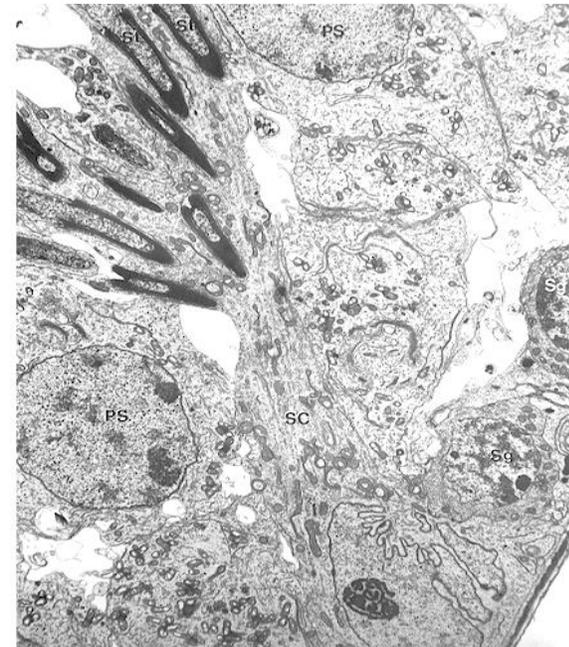
Leydig Cells



Sertoli Cells



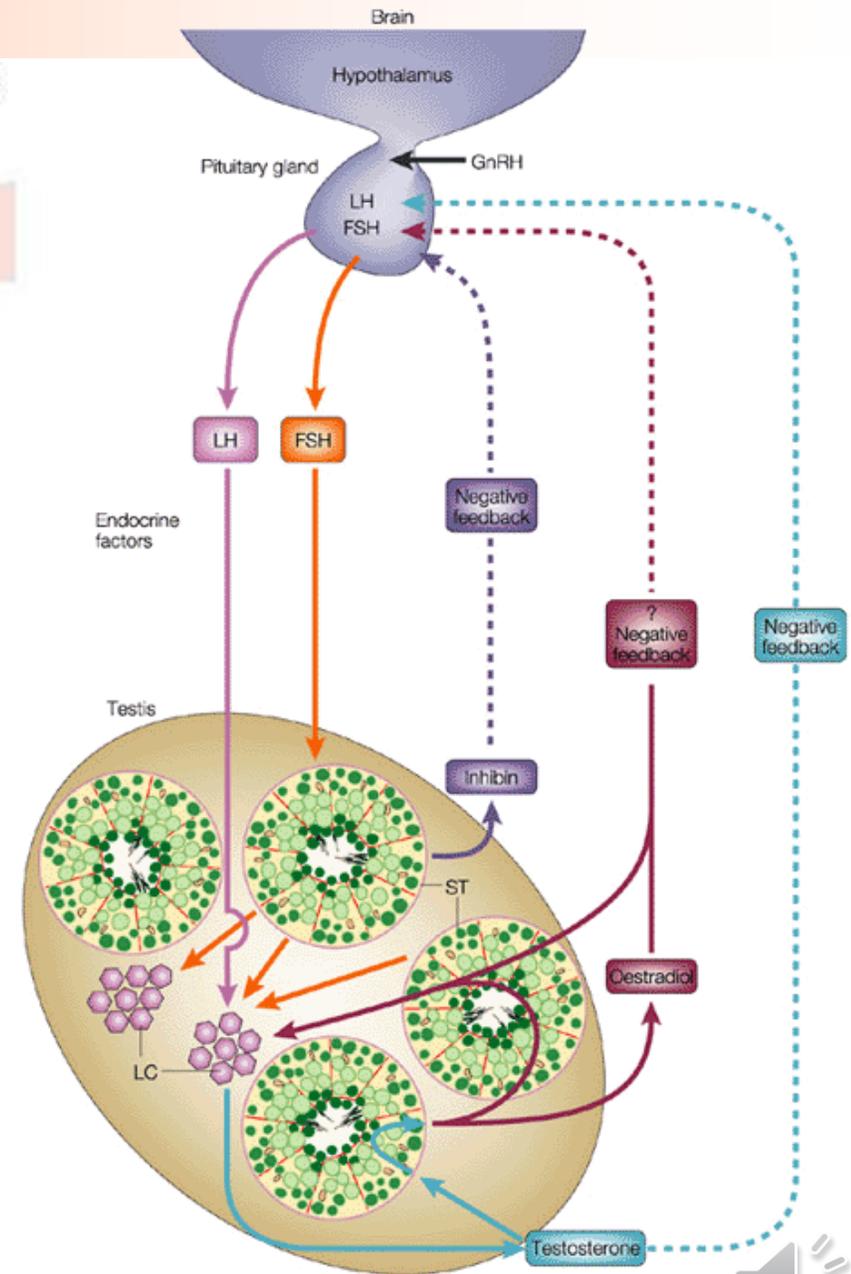
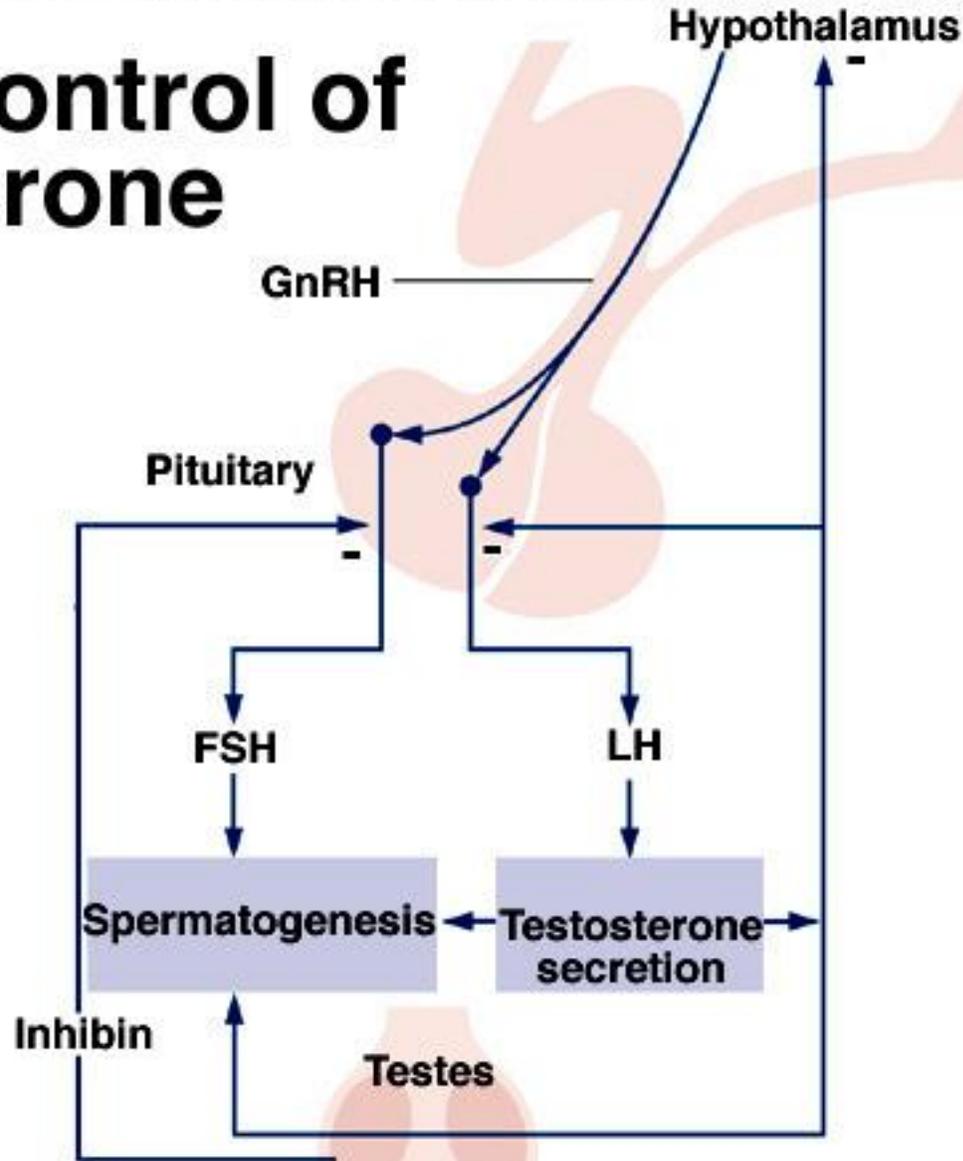
Célula de Leydig



Célula de Sertoli

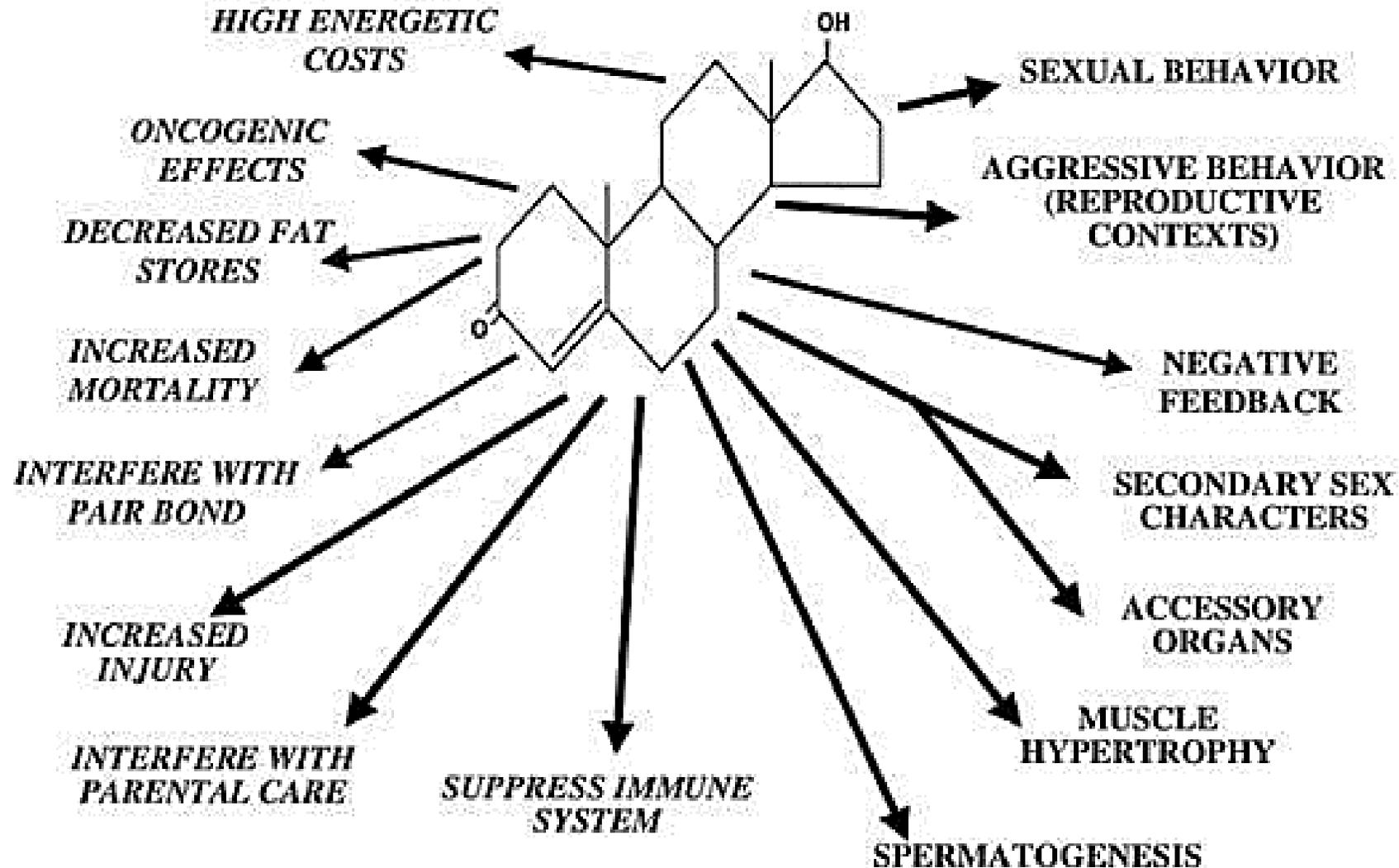


Hormonal Control of Testosterone





TESTOSTERONE

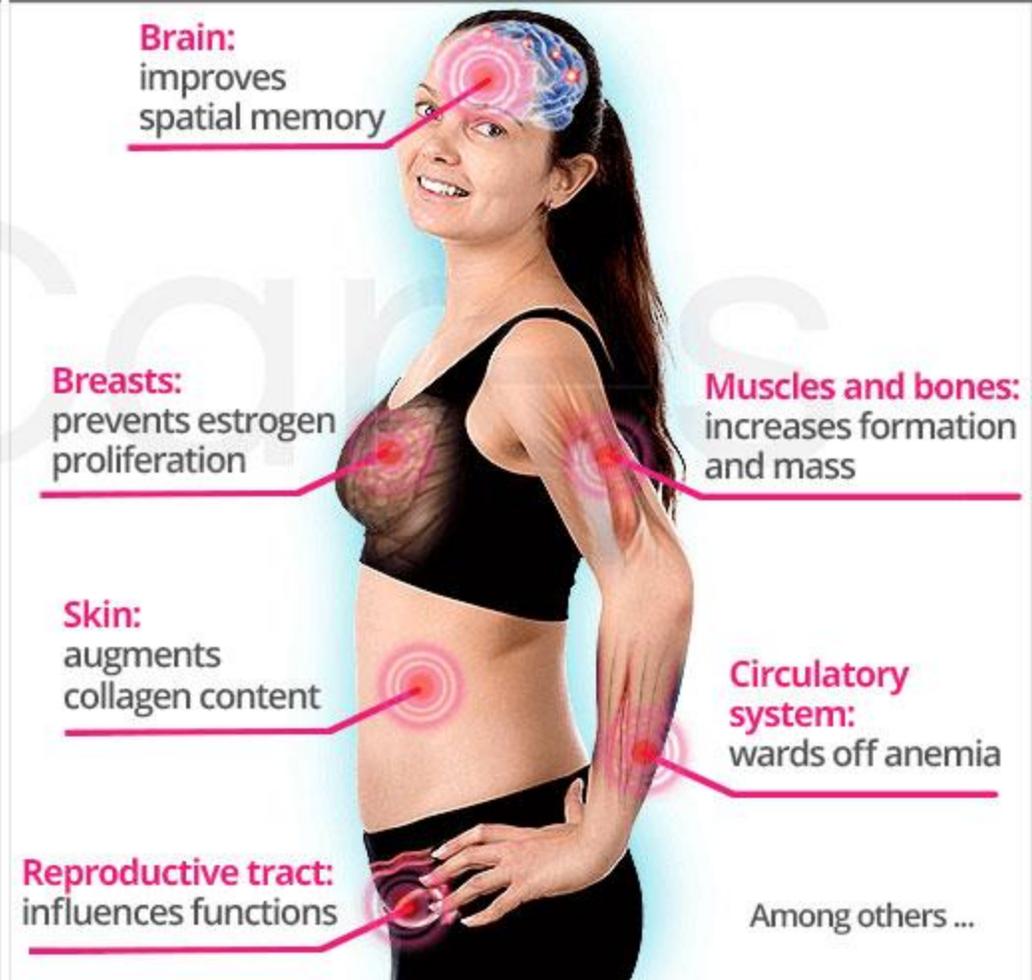


Testosterone Function

Testosterone Roles



Effects of Testosterone



The Effects Of Testosterone

Skin:

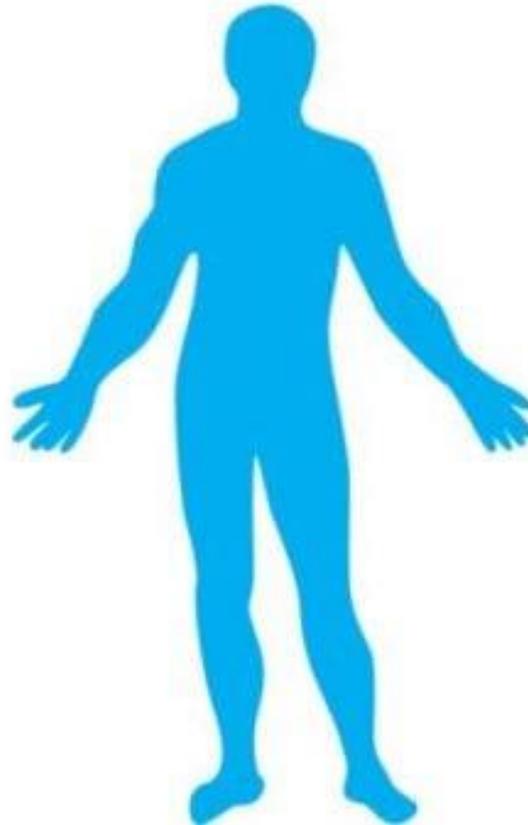
Hair Growth
Collagen growth

Sex Organs:

Sperm Production
Erektile Function
Prostate Growth

Muscles:

Muscle Growth
Increased Strength
Increased Endurance



Brain:

Increased Sex Drive
Improved Mood
Confidence
Memory function

Bone Marrow:

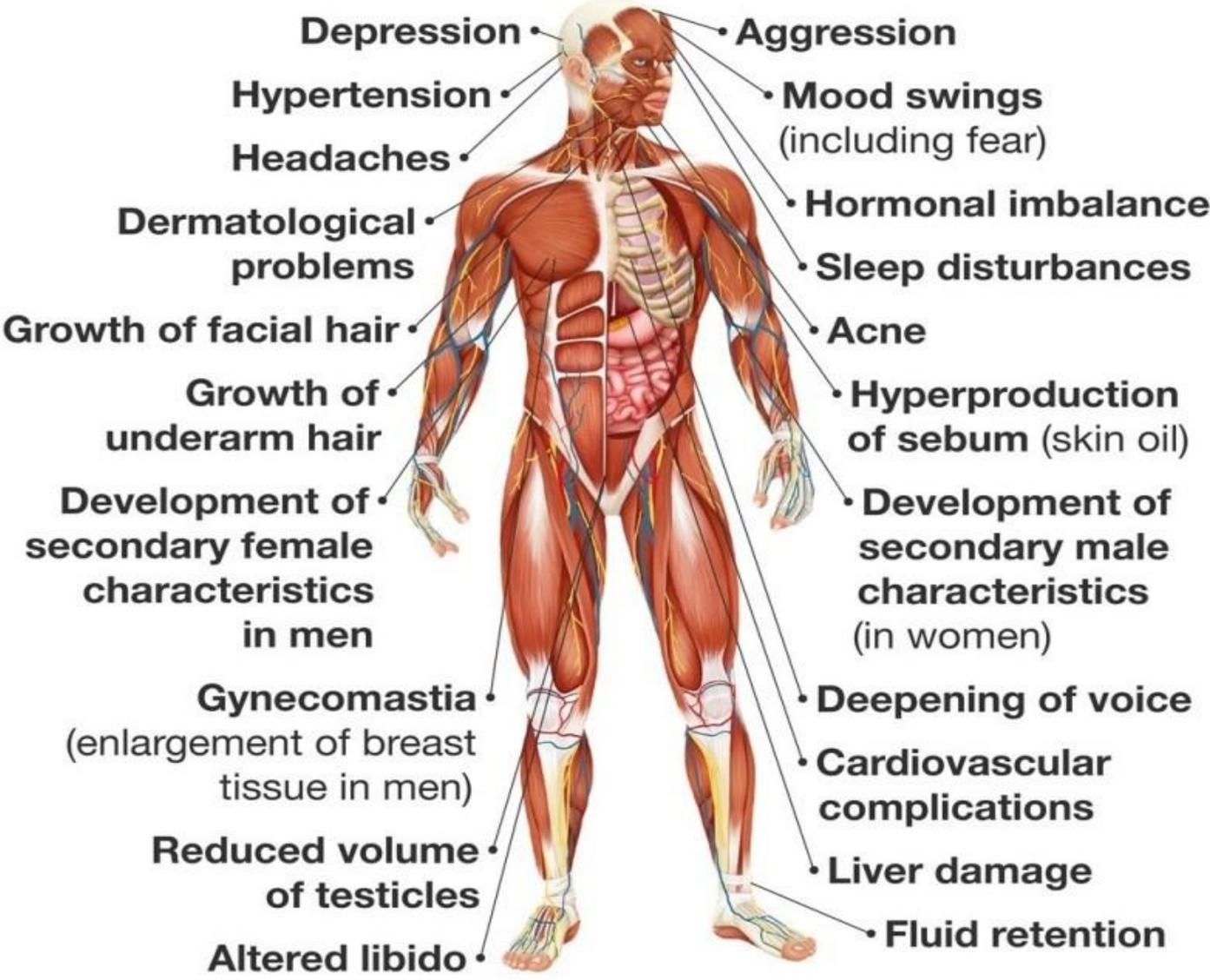
Red Blood Cell
Production

Bones:

Maintenance Of
Bone Mass Density



Steroid Abuse Side Effects



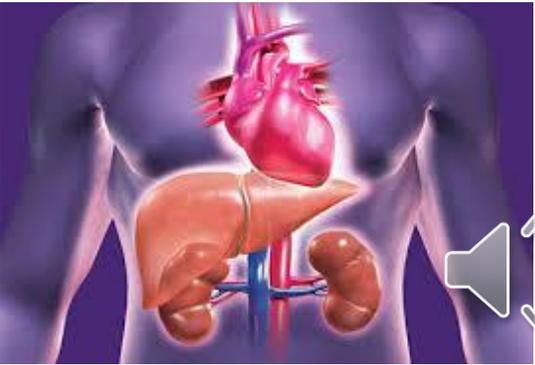
A classic case of steroidal gynecomastia

Quantec® Therapy

Heart attack in bodybuilders

Steroids is increasing aggression, worsening health, leading to infertility, amnesia or heart attack.

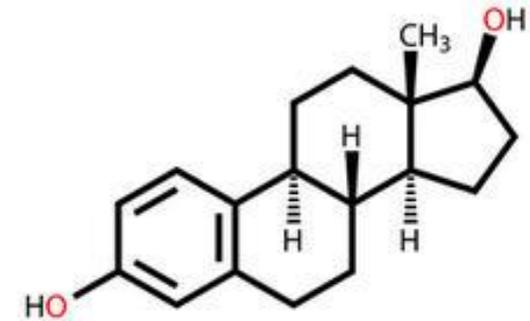
<https://www.quantectherapy.com>



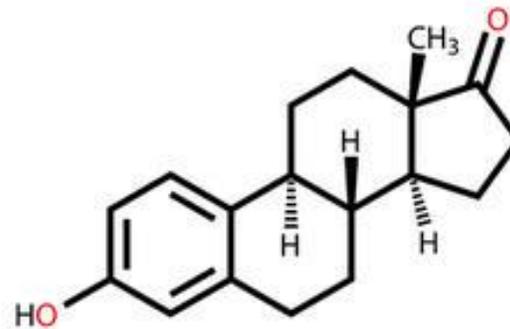
Hormonas ováricas



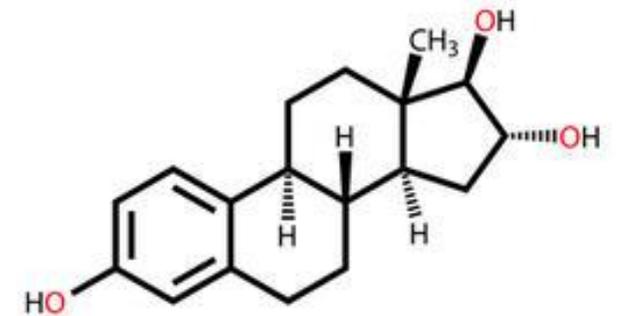
ESTROGENS



Estradiol



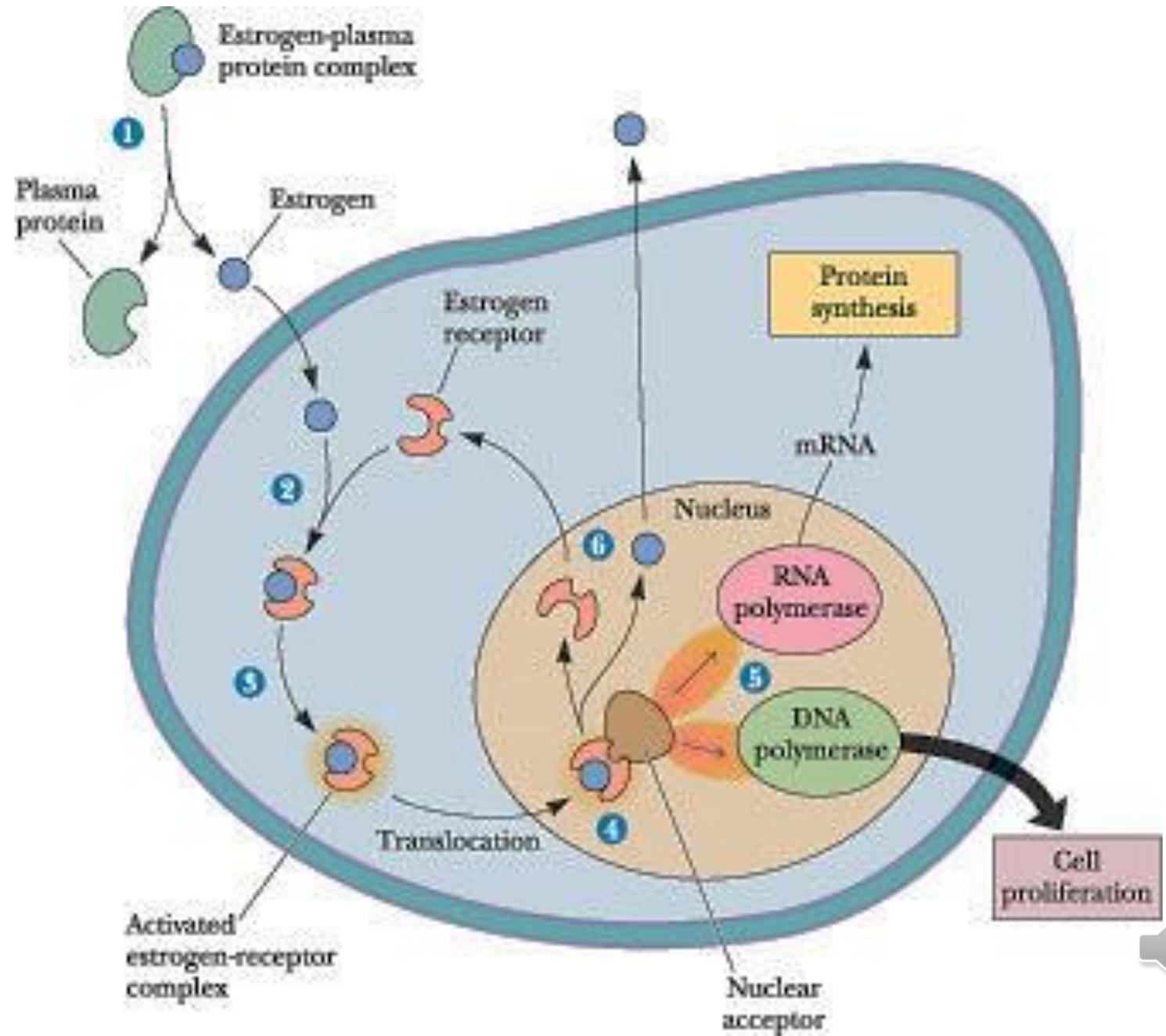
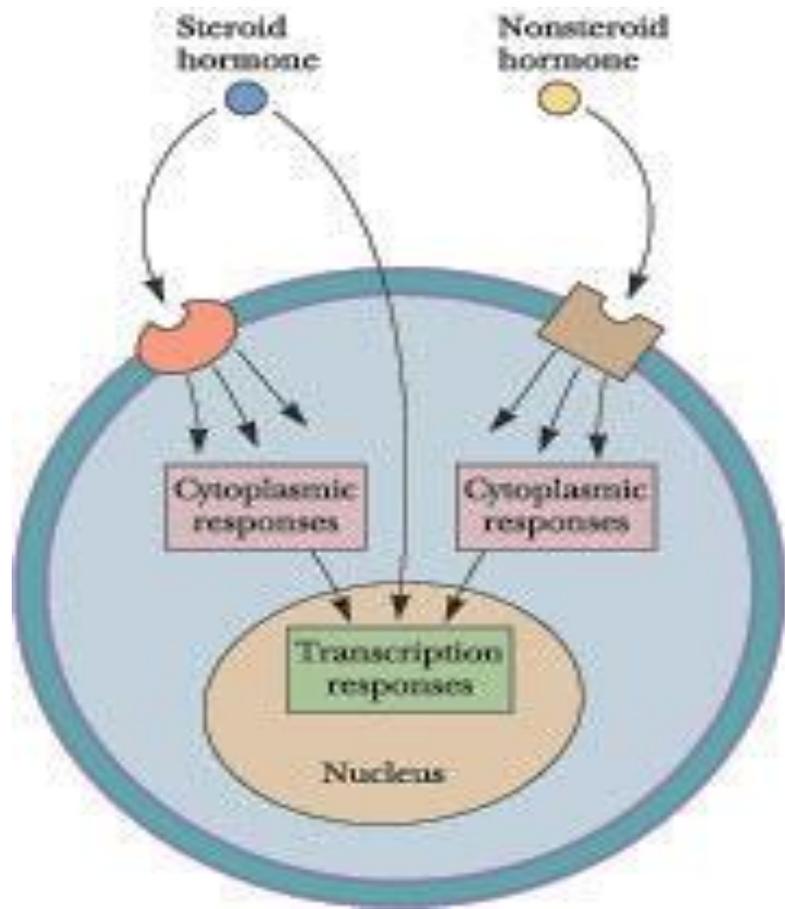
Estrone



Estriol



Control hormonal



ESTROGEN TARGET TISSUES

BRAIN
Hypothalamus/Pituitary



CARDIOVASCULAR



MAMMARY GLAND



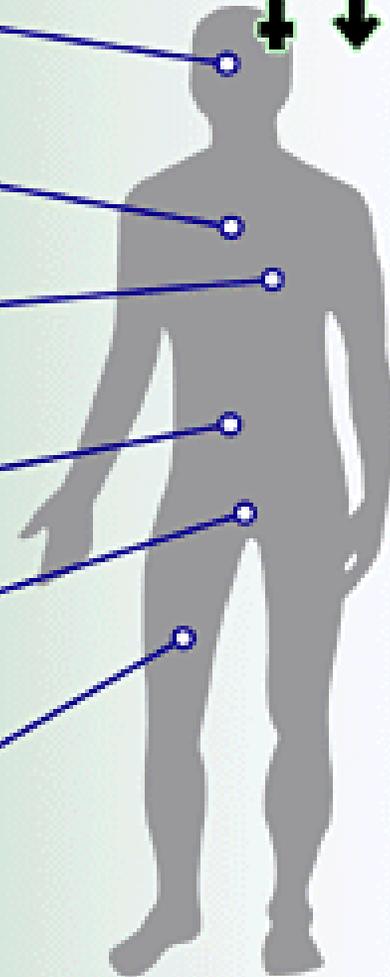
LIVER



REPRODUCTIVE TRACT
Uterus/Cervix/Vagina/Ovary
Testes/Prostate



BONE

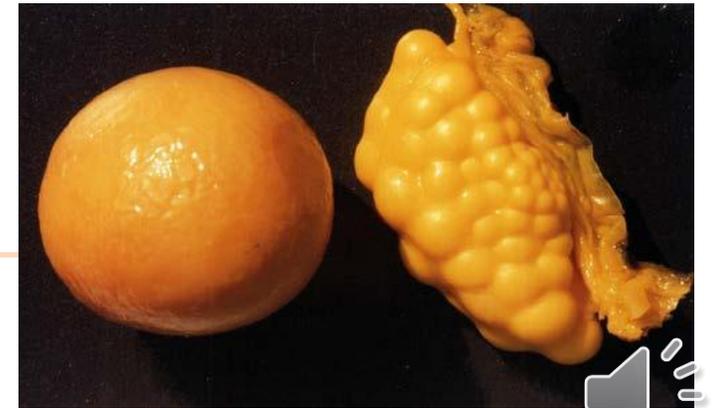
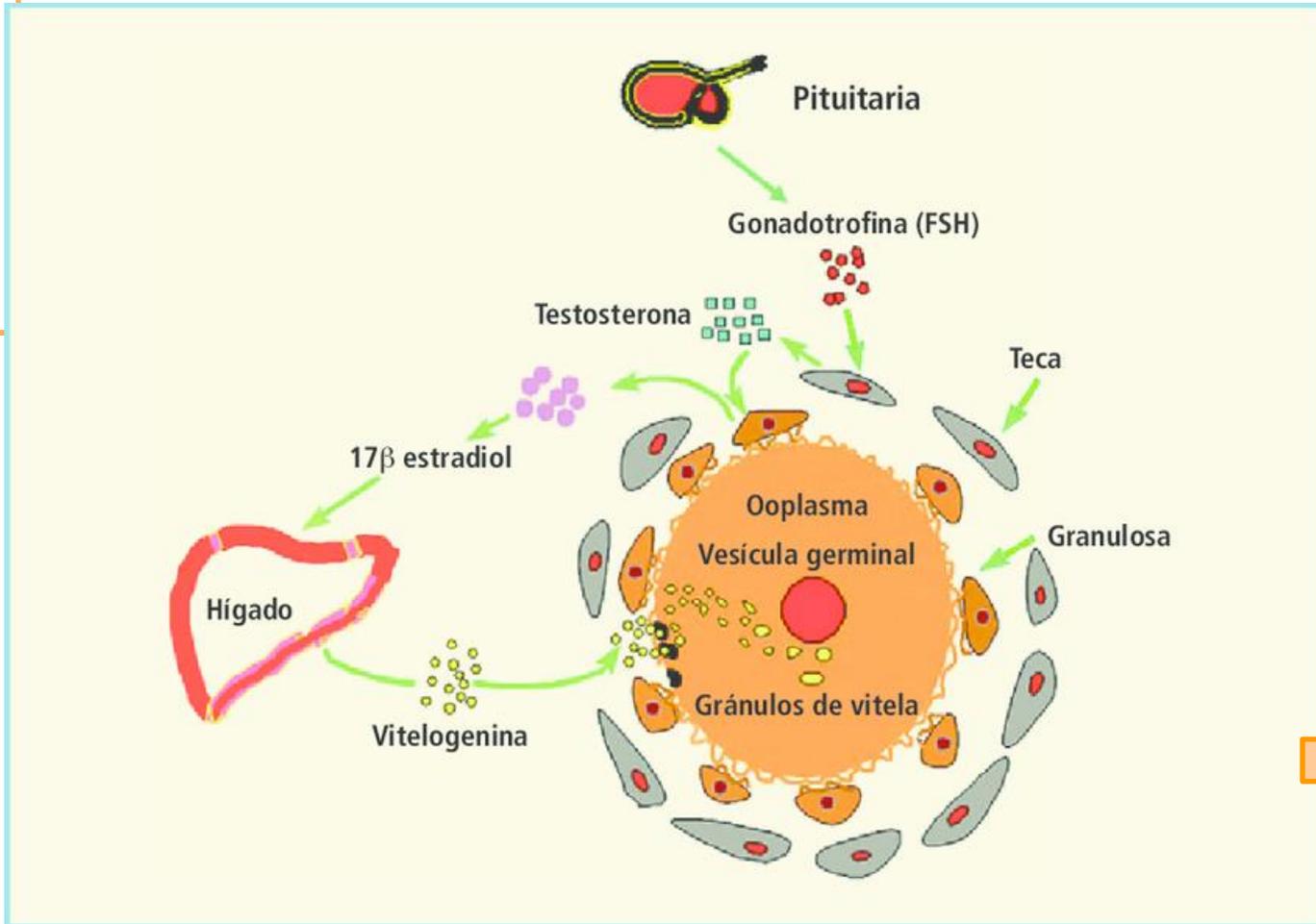


Funciones de los estrógenos

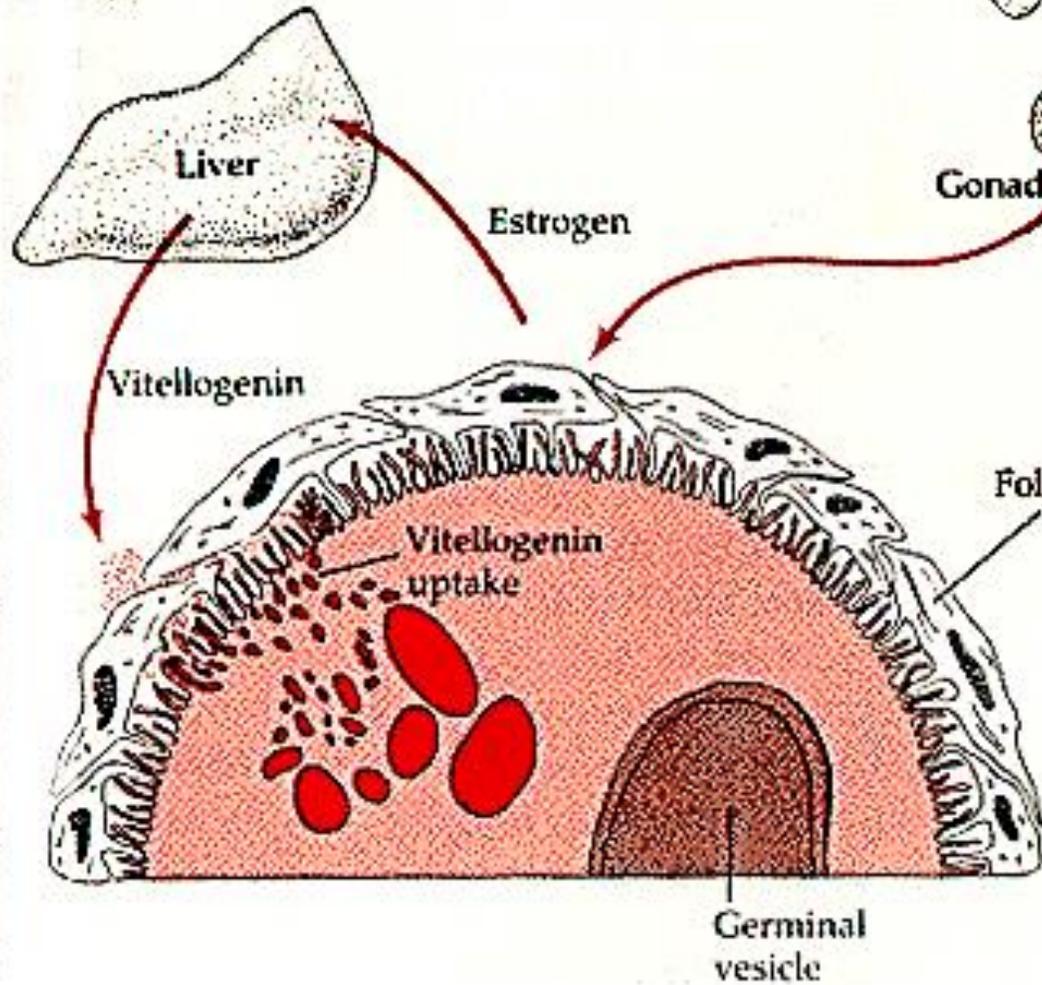
Crecimiento folicular vitelogénico

Inhiben la liberación de FSH y estimulan la liberación de LH

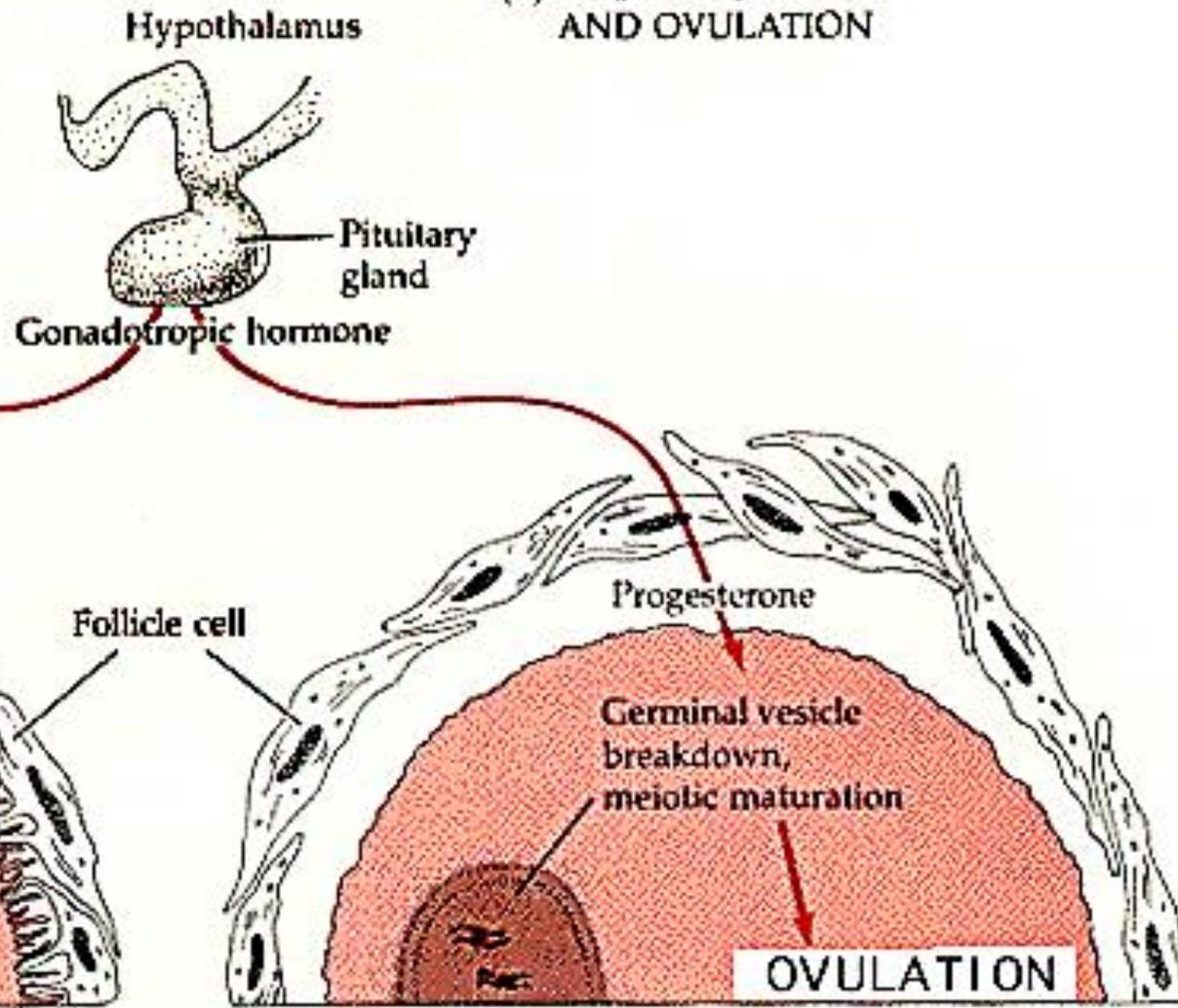
Promueven la ovulación



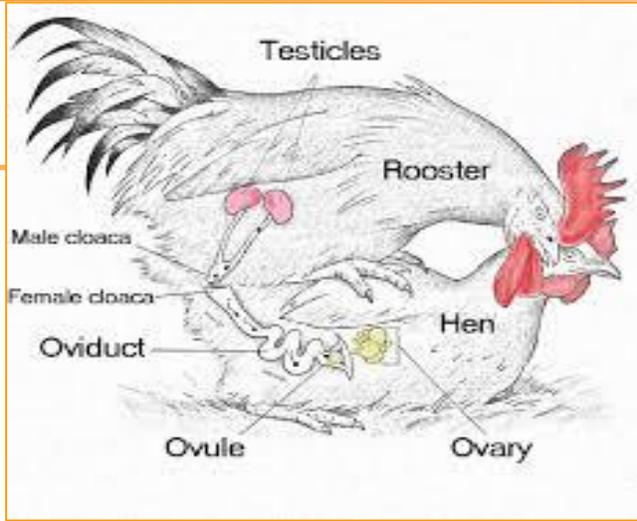
(A) VITELLOGENESIS AND OOCYTE DIFFERENTIATION



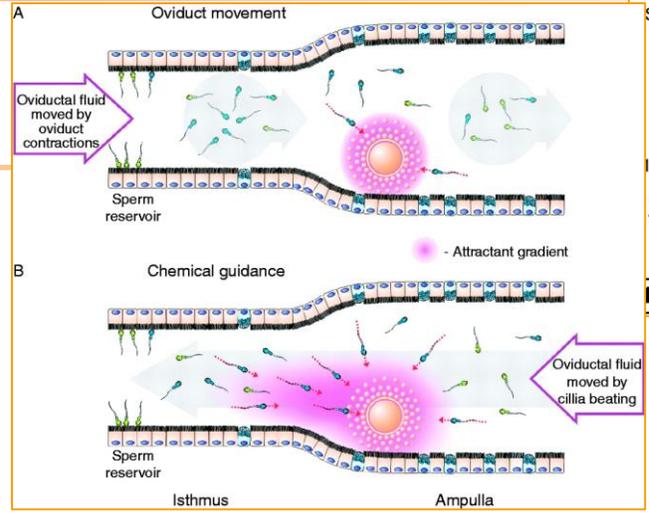
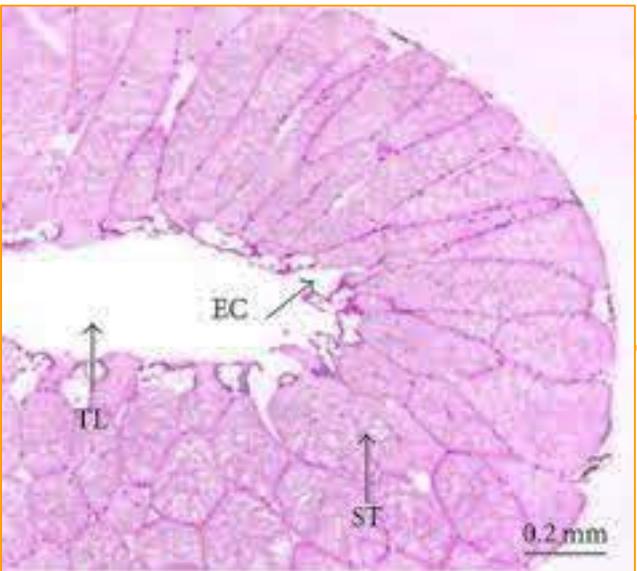
(B) EGG MATURATION AND OVULATION



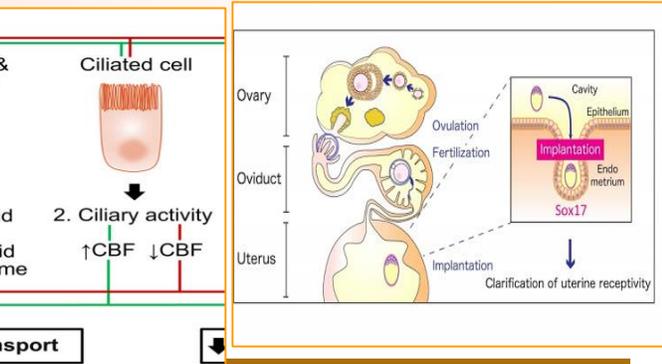
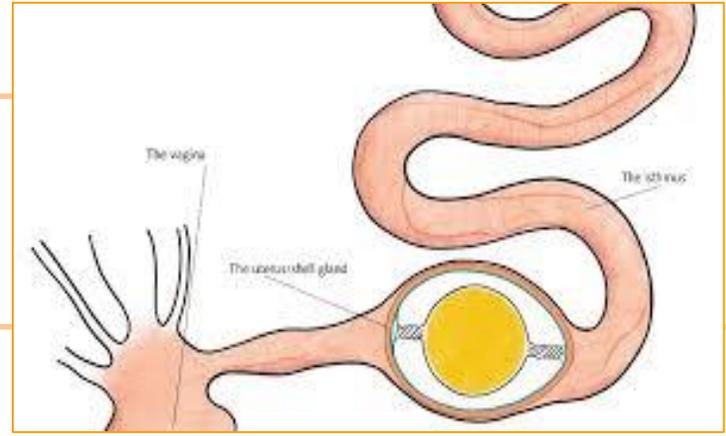
Funciones de los estrógenos



Desarrollo de órganos reproductivos femeninos



Preparación del oviducto

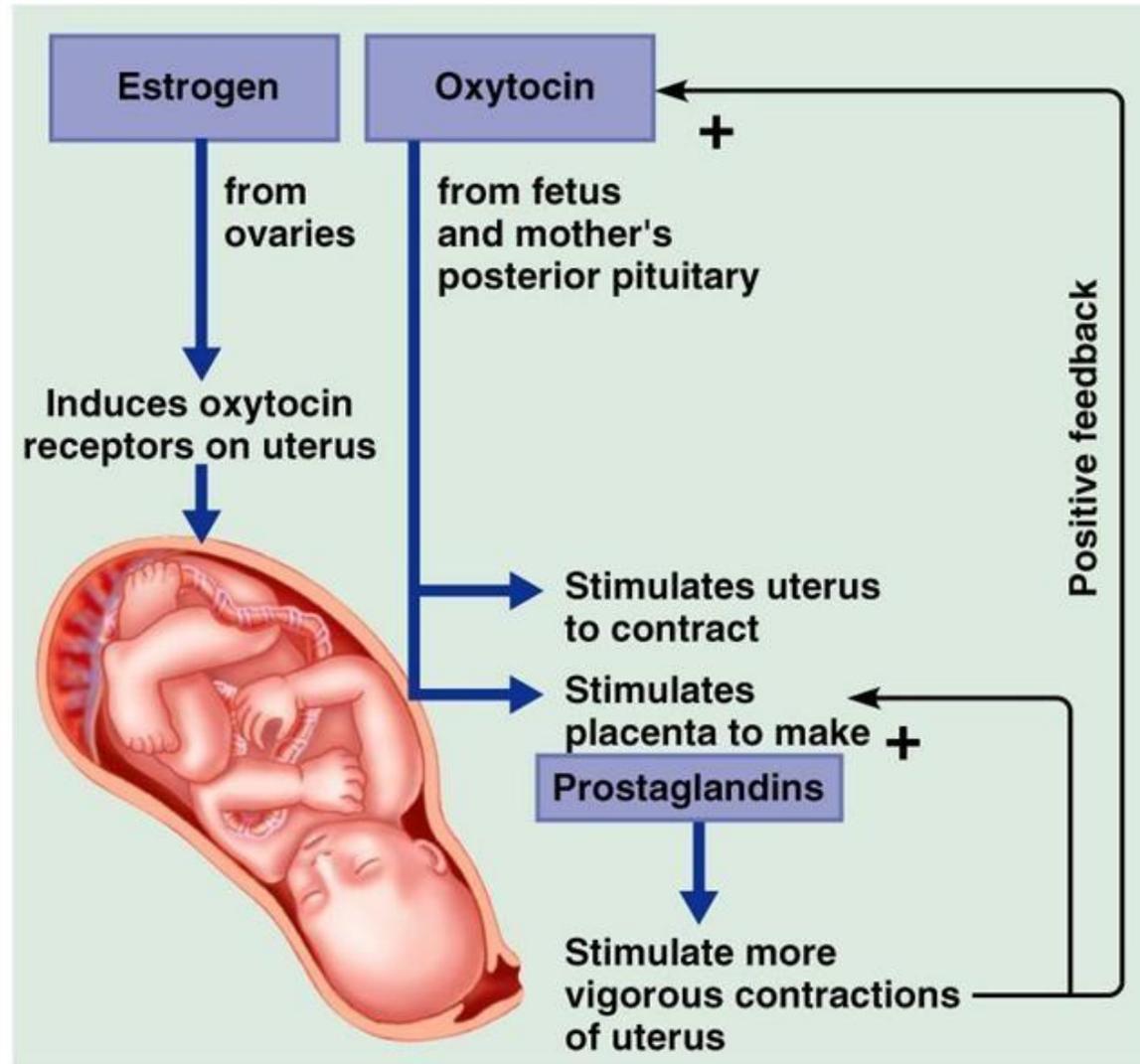


Preparación para la cópula y fertilización

Preparación para la implantación o el encasamiento

Preparación para el parto u oviposición





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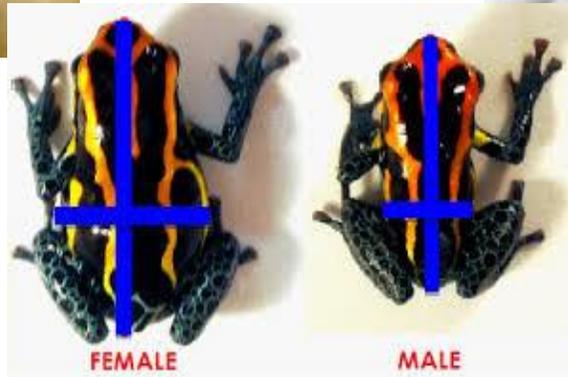
Figure 28.16



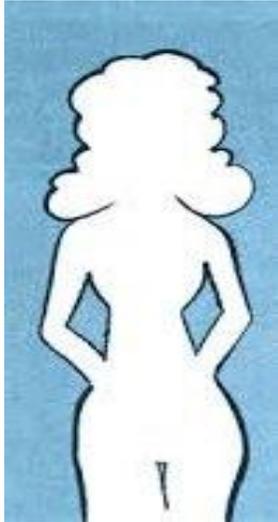
Funciones de los estrógenos



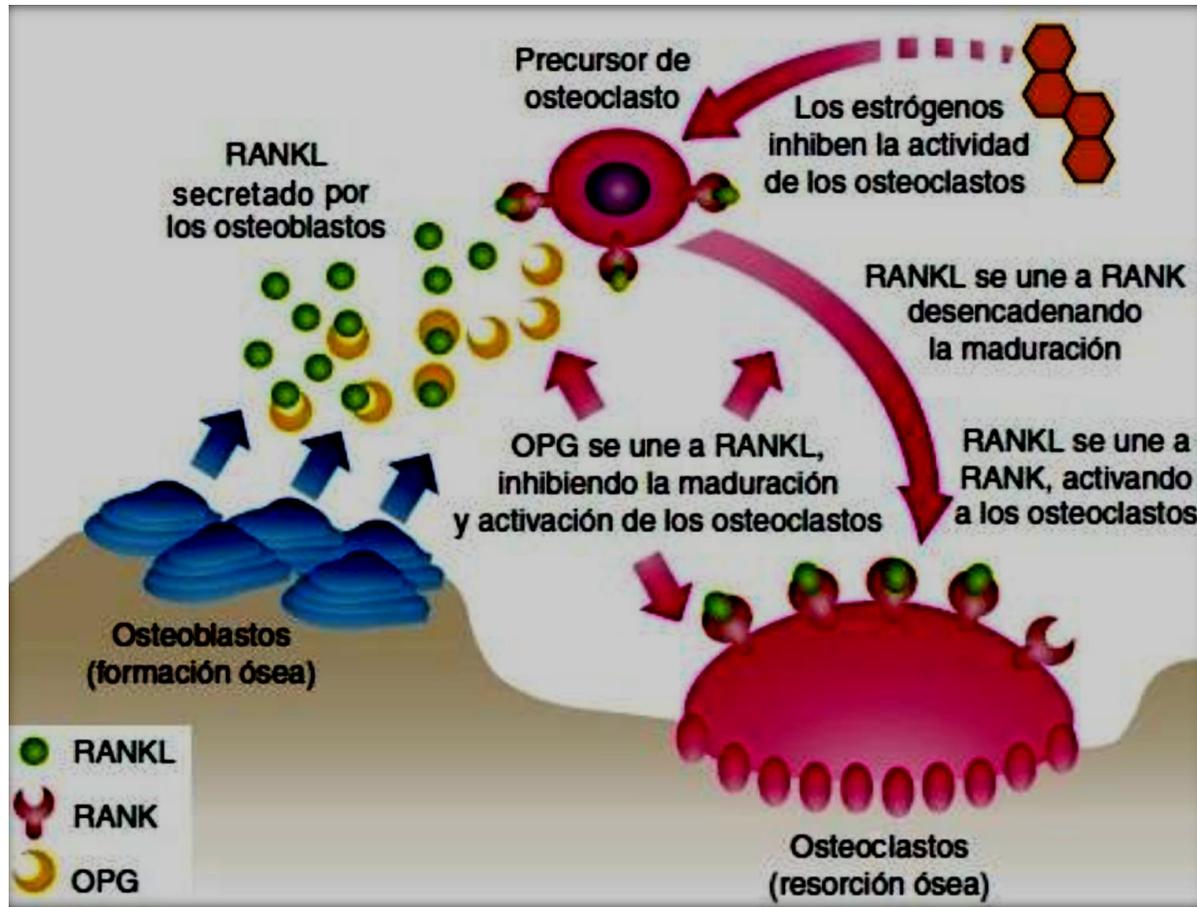
Caracteres sexuales secundarios femeninos



Determinan conducta receptiva hacia el macho



Funciones de los estrógenos



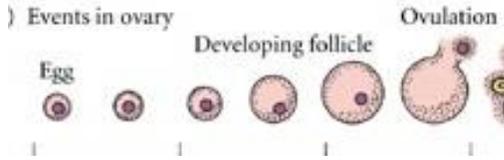
Homeostasis del Calcio

Disminuye la reabsorción del hueso

Crecimiento de los huesos en la pubertad y luego la detención de su crecimiento



Funciones de los estrógenos



Control fase folicular ciclo ovárico

Control de varios procesos fisiológicos

Control crecimiento del pelo y salud dérmica

Controla temperaturas corporales

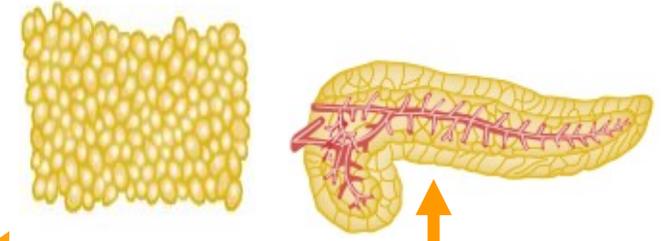


Balance energético

Acumulación localizada de grasas

Control metabólico hígado, páncreas, músculo

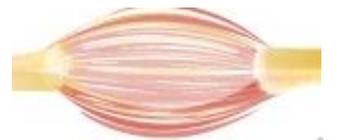
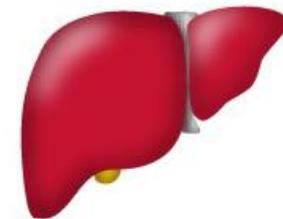
Control sistema inmunológico



Supervivencia de las células beta pancreáticas

En el hígado, sensibilidad a la insulina y a la homeostasis lipídica

Sensibilidad a la insulina en el músculo esquelético



Deficiencia/resistencia estrógenos

Balance energético

Obesidad

Acumulación localizada de grasas

Obesidad, grasa abdominal

Supervivencia células beta pancreáticas

Diabetes tipo 2

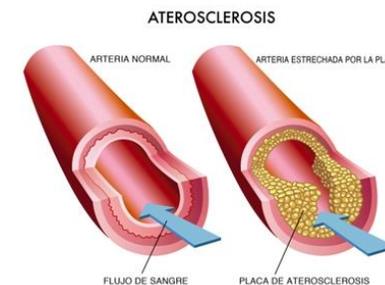
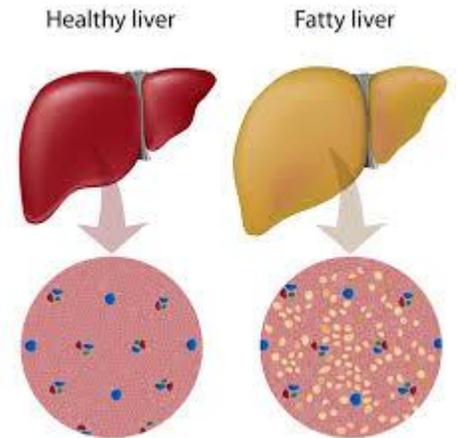
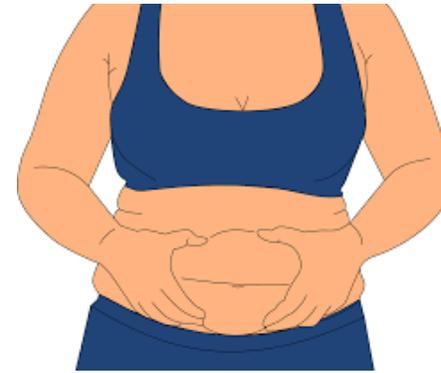
Sensitividad a la insulina y a los lípidos en el hígado y músculos

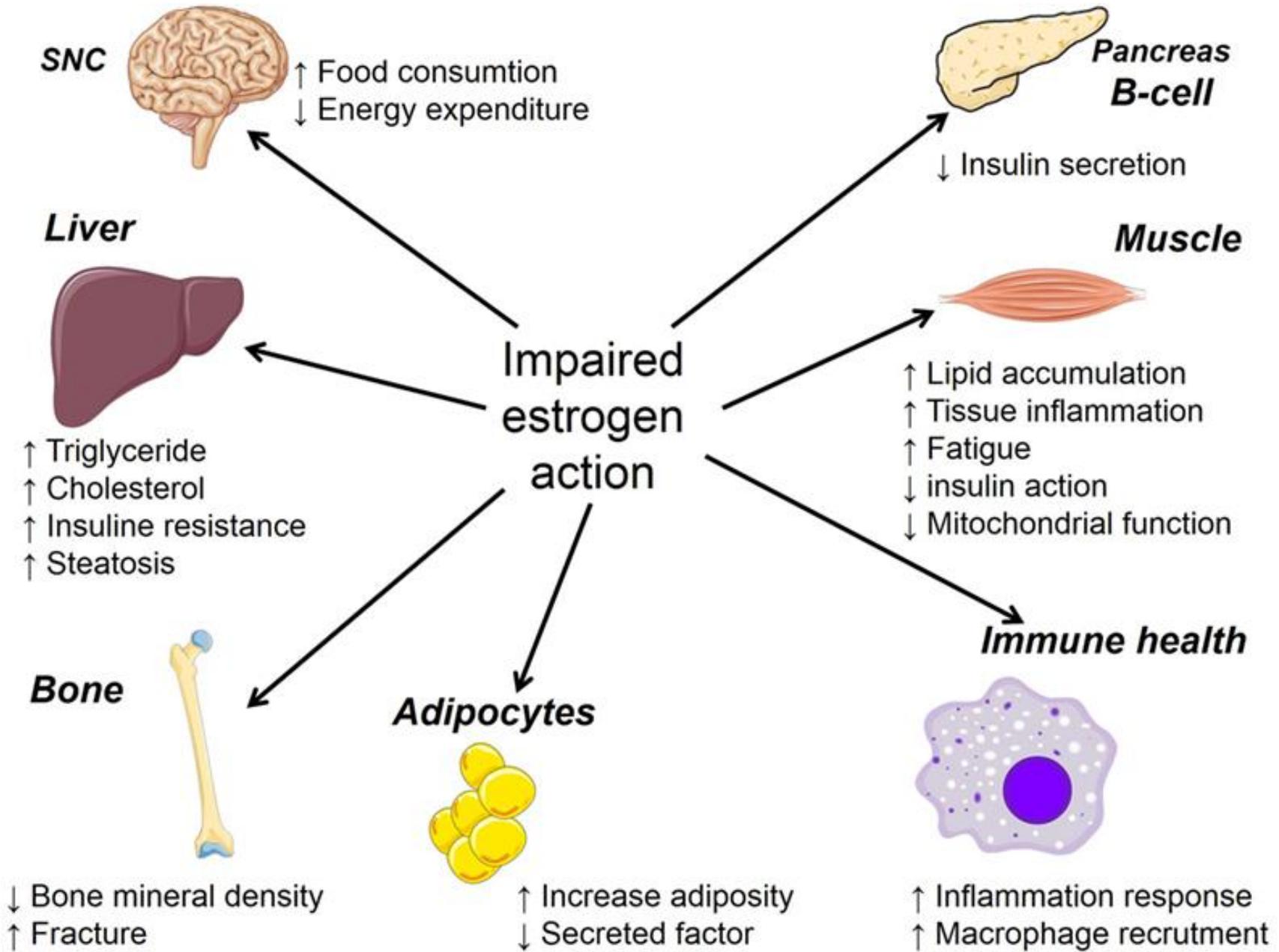
Hígado graso

Resistencia a la insulina

Control sistema inmunológico

Inflamación, adiposidad, arterioesclerosis



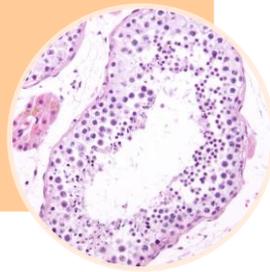


Estrógenos en los machos

- En los túbulos seminíferos (espermatogénesis final)



Testículo

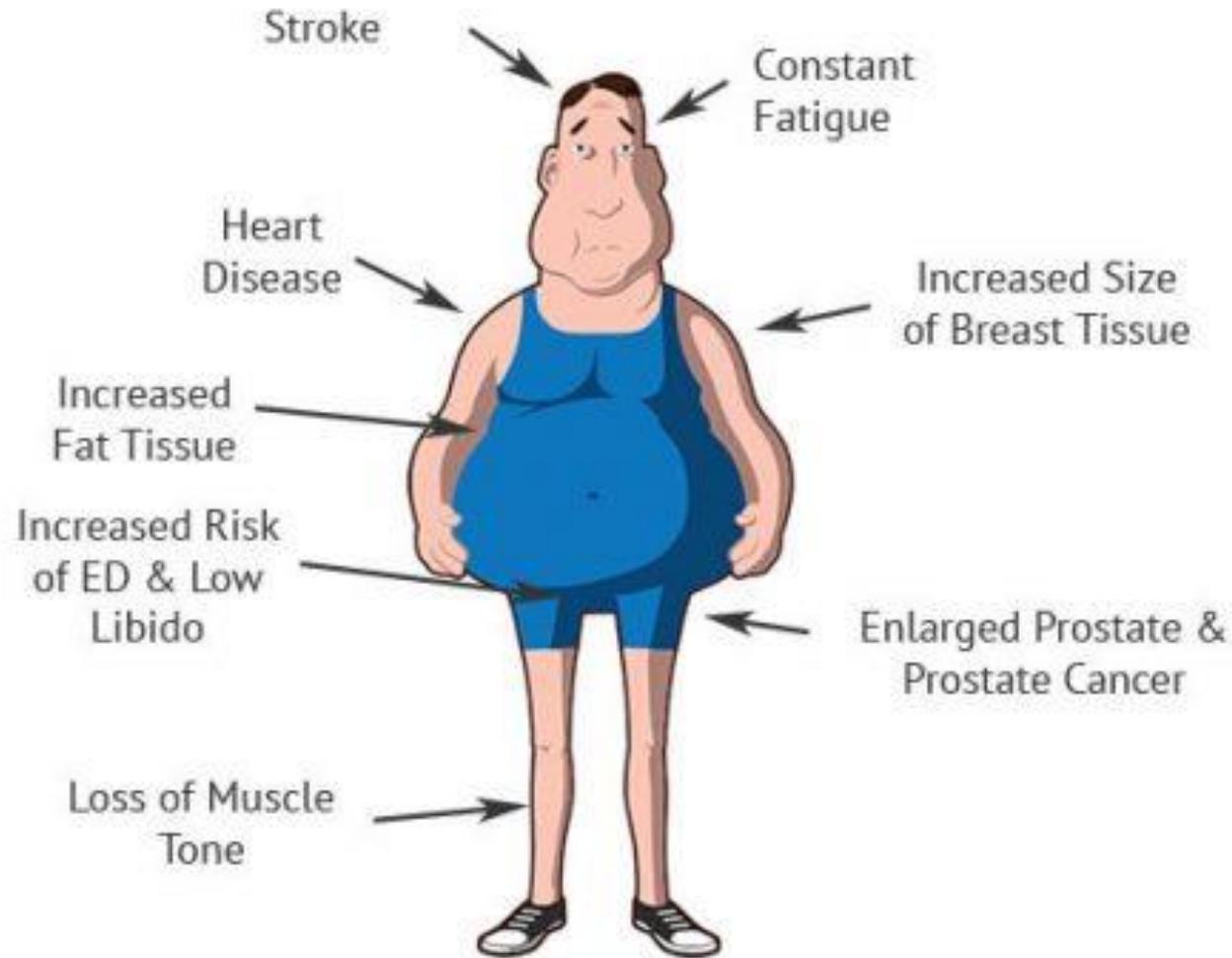


- Piel
- Adipocitos
- Hígado
- Cerebro

Conversión desde testosterona en otros tejidos

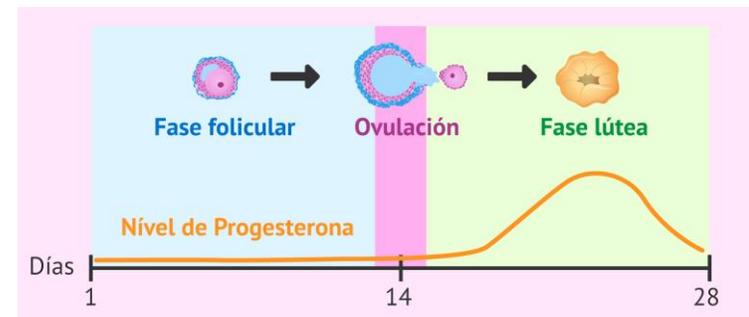
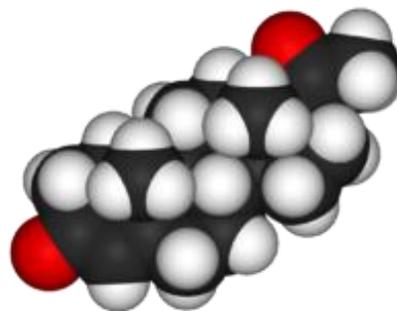


High Estrogen in Men



Progesterona

Hormonas Ováricas



- Inhibición de las contracciones oviductales
- Implantación embriones
- Producción envolturas del huevo
- Control liberación LH

- Mantenimiento de embrión/huevo en el oviducto
- Preparación del oviducto para fertilización
- Mantenimiento del oviducto para la gestación

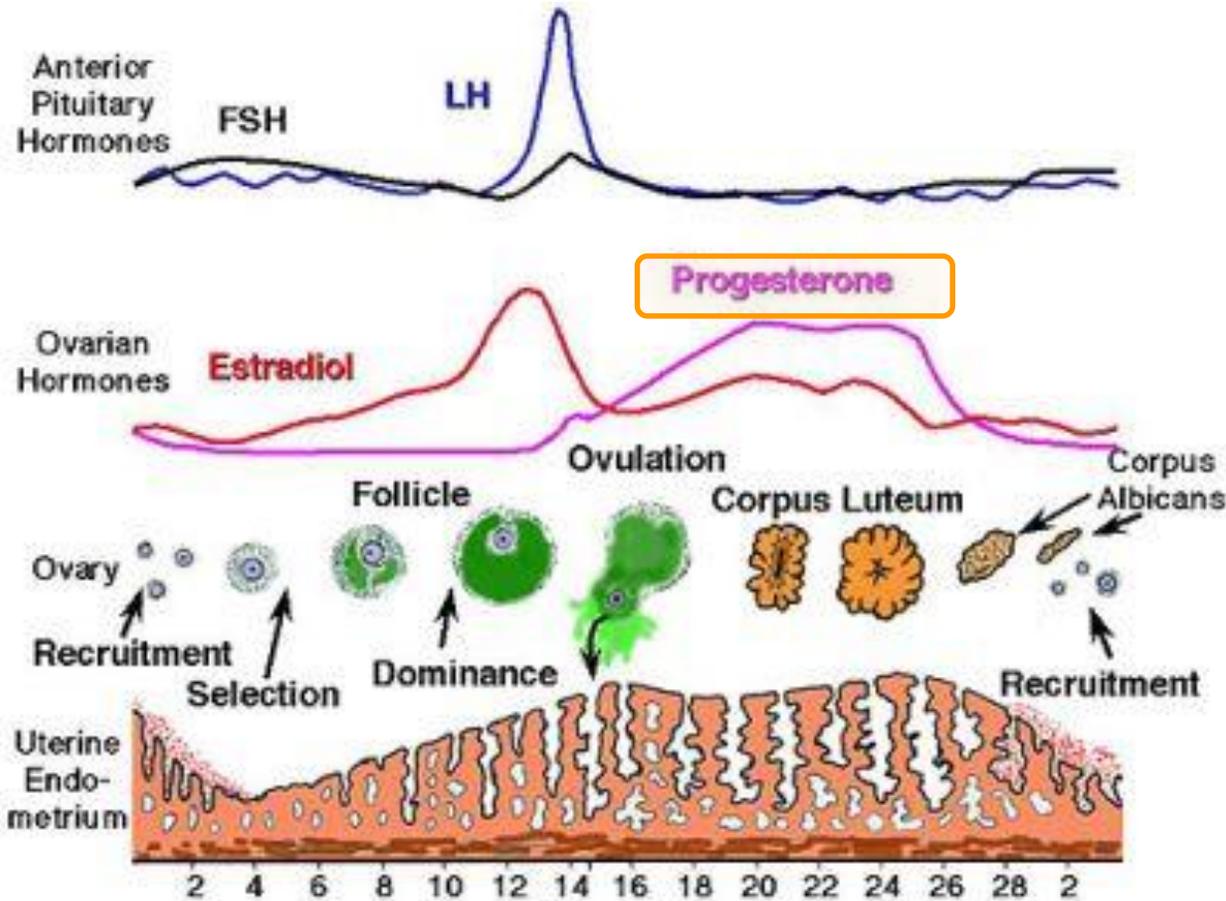
Cuerpo lúteo

Células de la teca

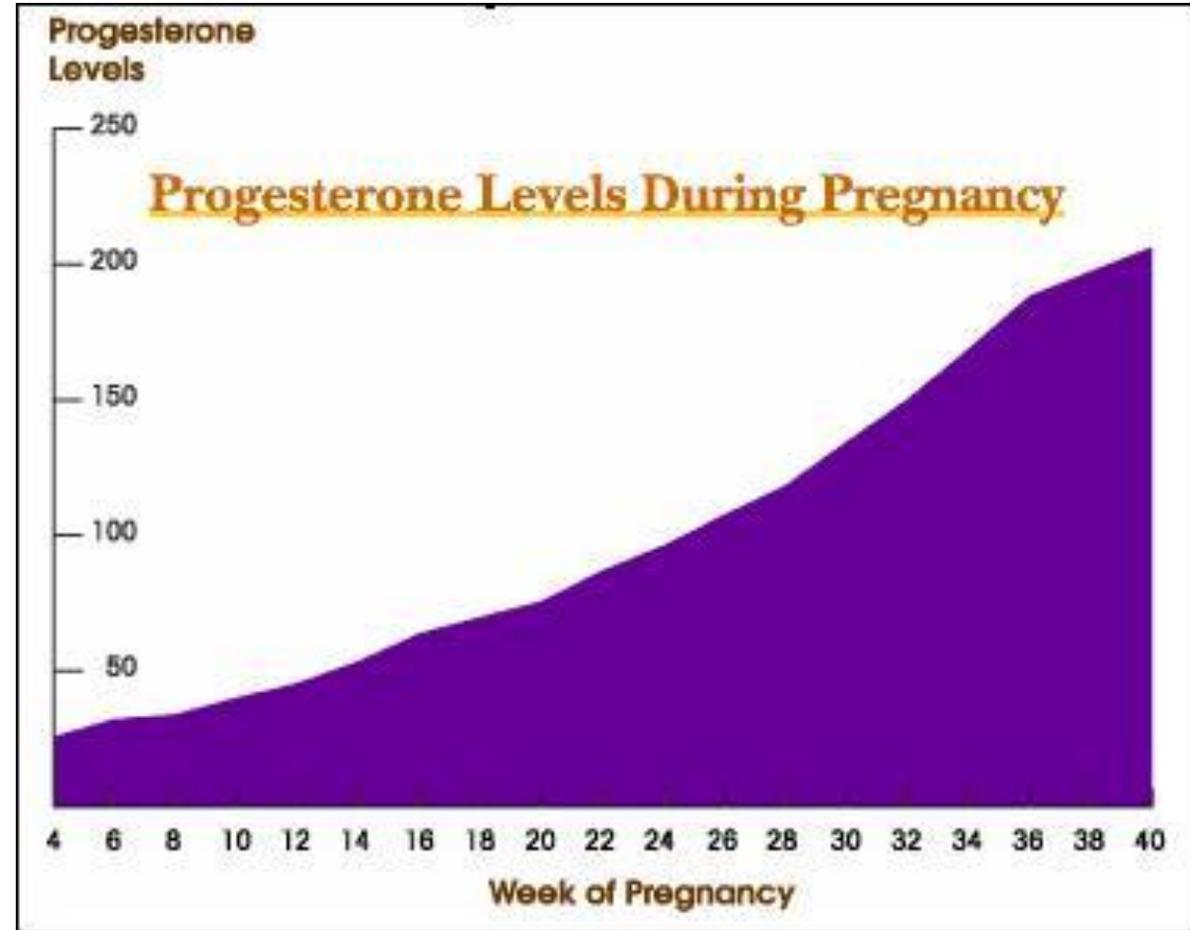
Placenta/corteza suprarrenal



Niveles de Progesterona



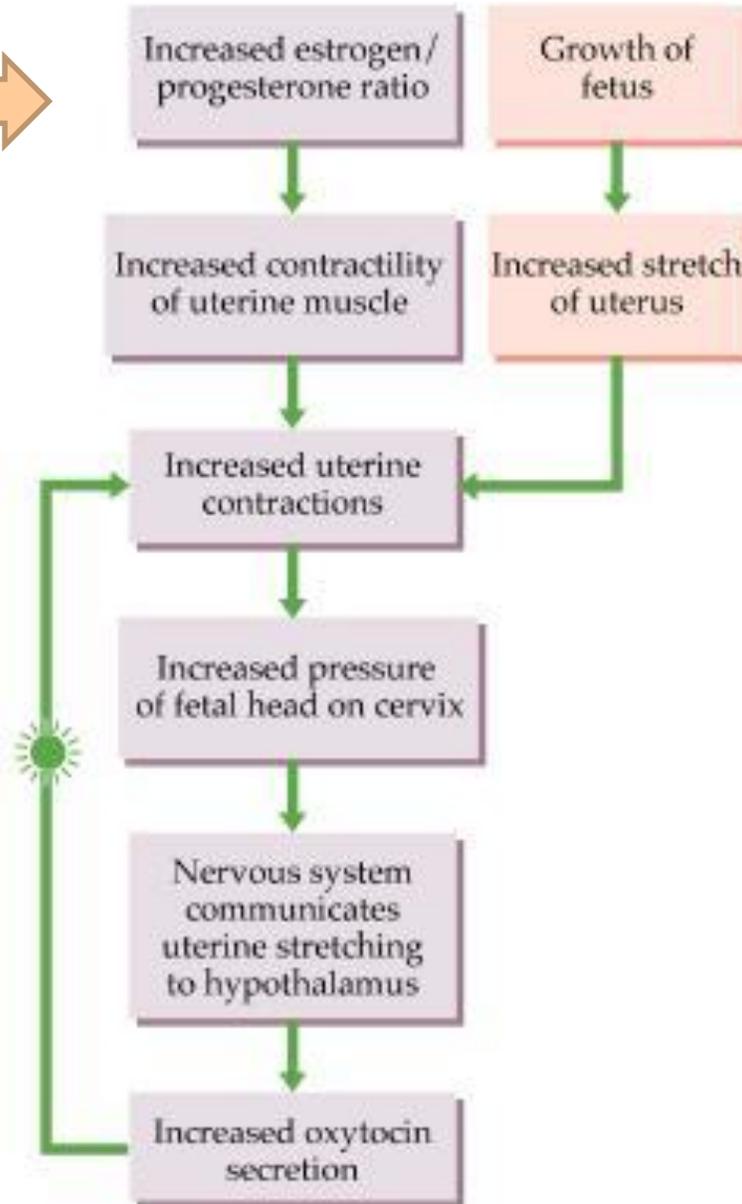
En los ciclos ováricos



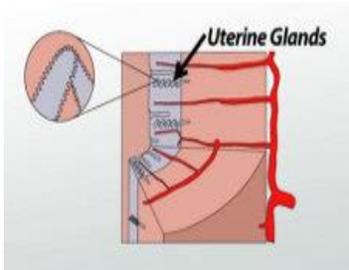
Durante la gravidez



Durante el parto o en la oviposición



Progesterona



Mucosa oviductal
secreciones

Glándulas
vaginales (cópula)

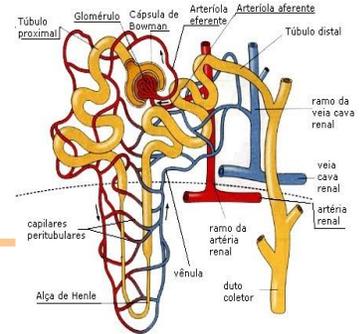
SNC depresor,
calmante, líbido



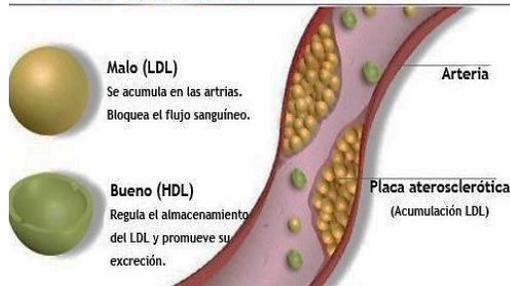
Aumenta
concentraciones de
insulina y depósito
de lípidos

Reduce HDL y LDL

Reduce acción de
mineralocorticoides
en los túbulos
renales

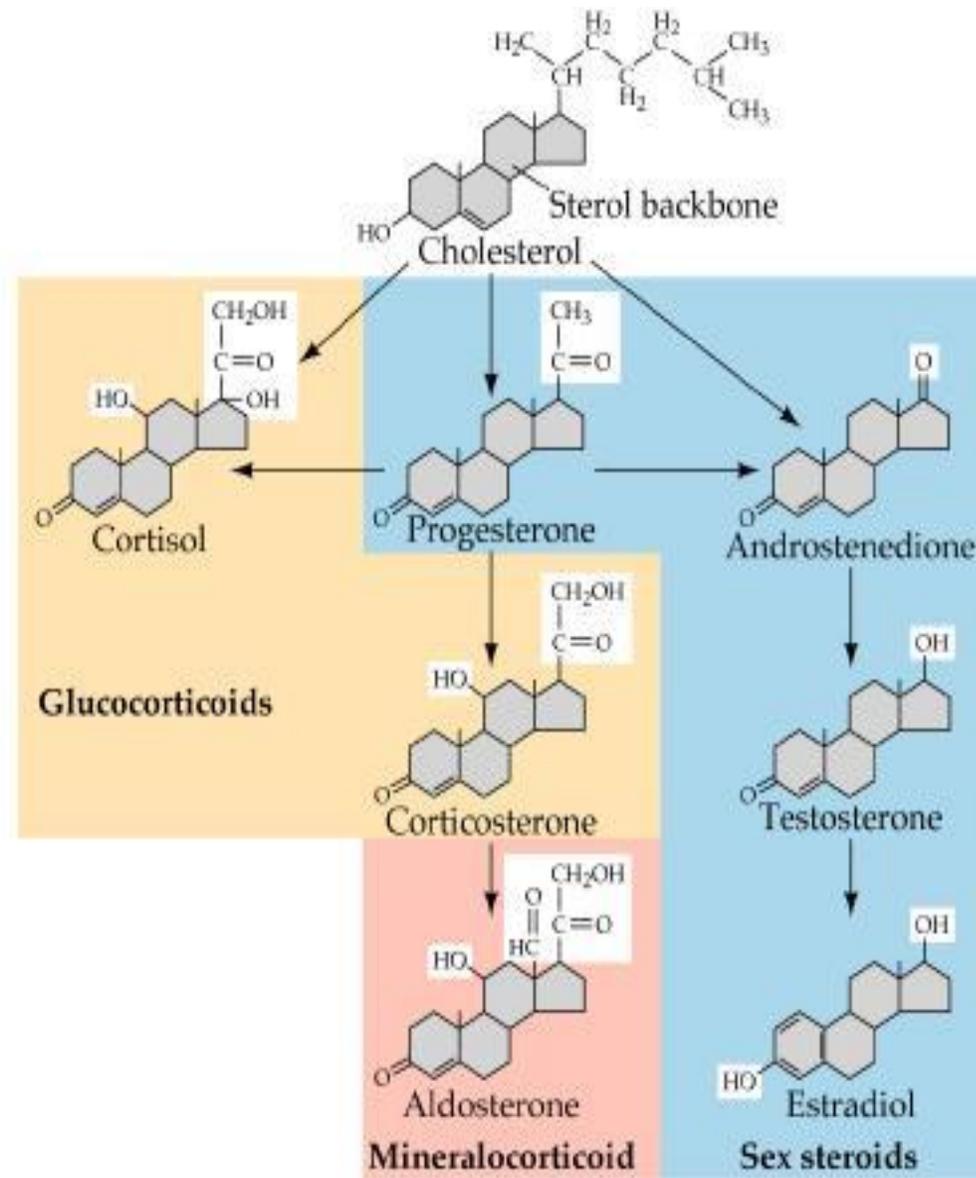


LDL vs. HDL



Controla la
temperatura
corporal en el
hipotálamo





Esteroides sexuales



Relaxina

Hormonas Ováricas

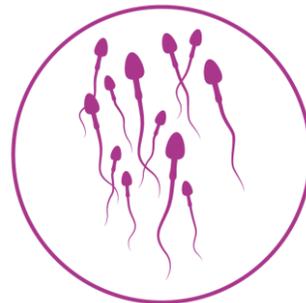
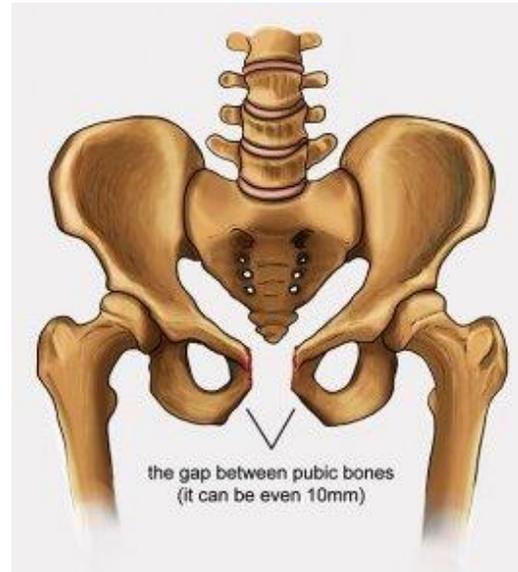
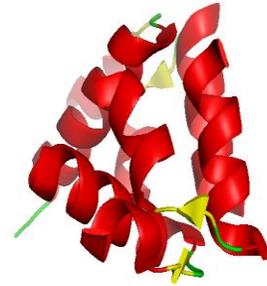
Hormona peptídica de la familia de la insulina

Producida en el ovario, en la placenta y glándulas mamarias

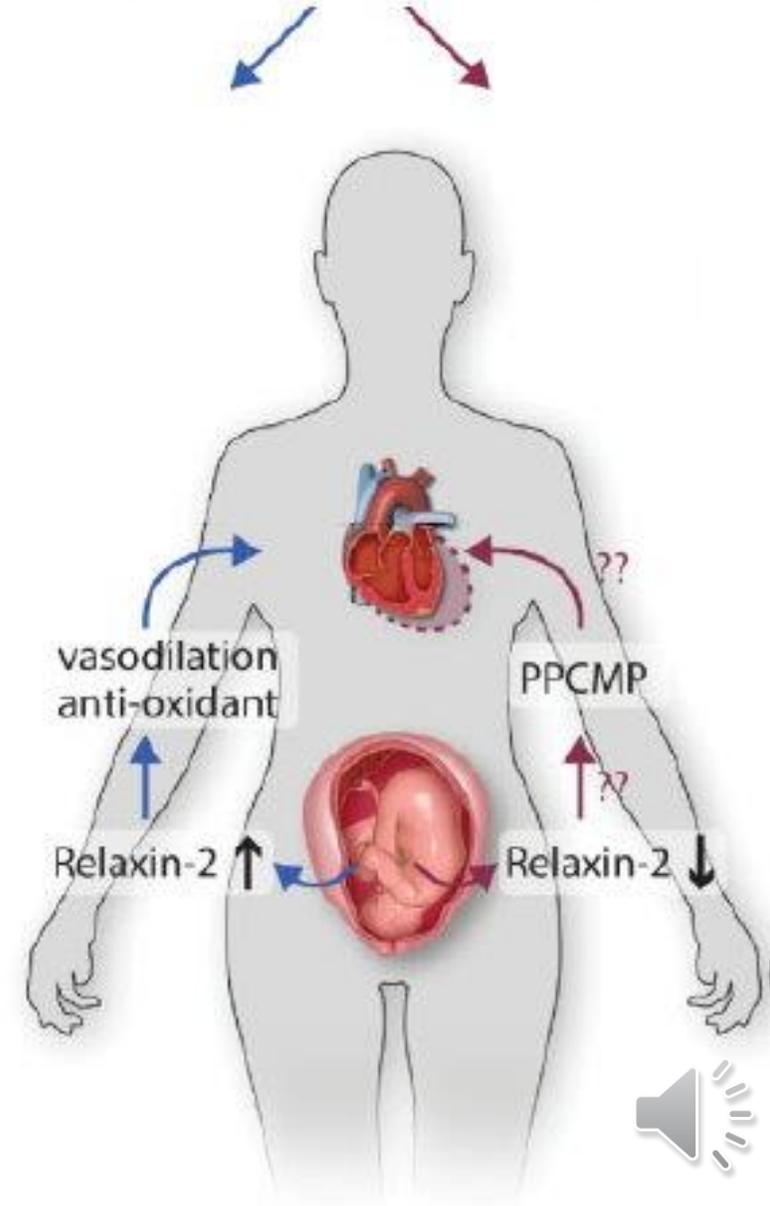
Producida durante el trabajo de parto/oviposición

Relaja los ligamentos y afloja el cartílago púbico

Producida en la próstata y presente en el semen



RELAXIN hormone during reproduction



Células de la granulosa

Activina

Activan la liberación de FSH



Inhibina

Frenan la liberación de FSH



Estrógenos

Crecimiento folicular

Progesterona

Inhibición de las contracciones músculo oviductal

Relaxina

Relajación cartílago púbico (parto/oviposición)



