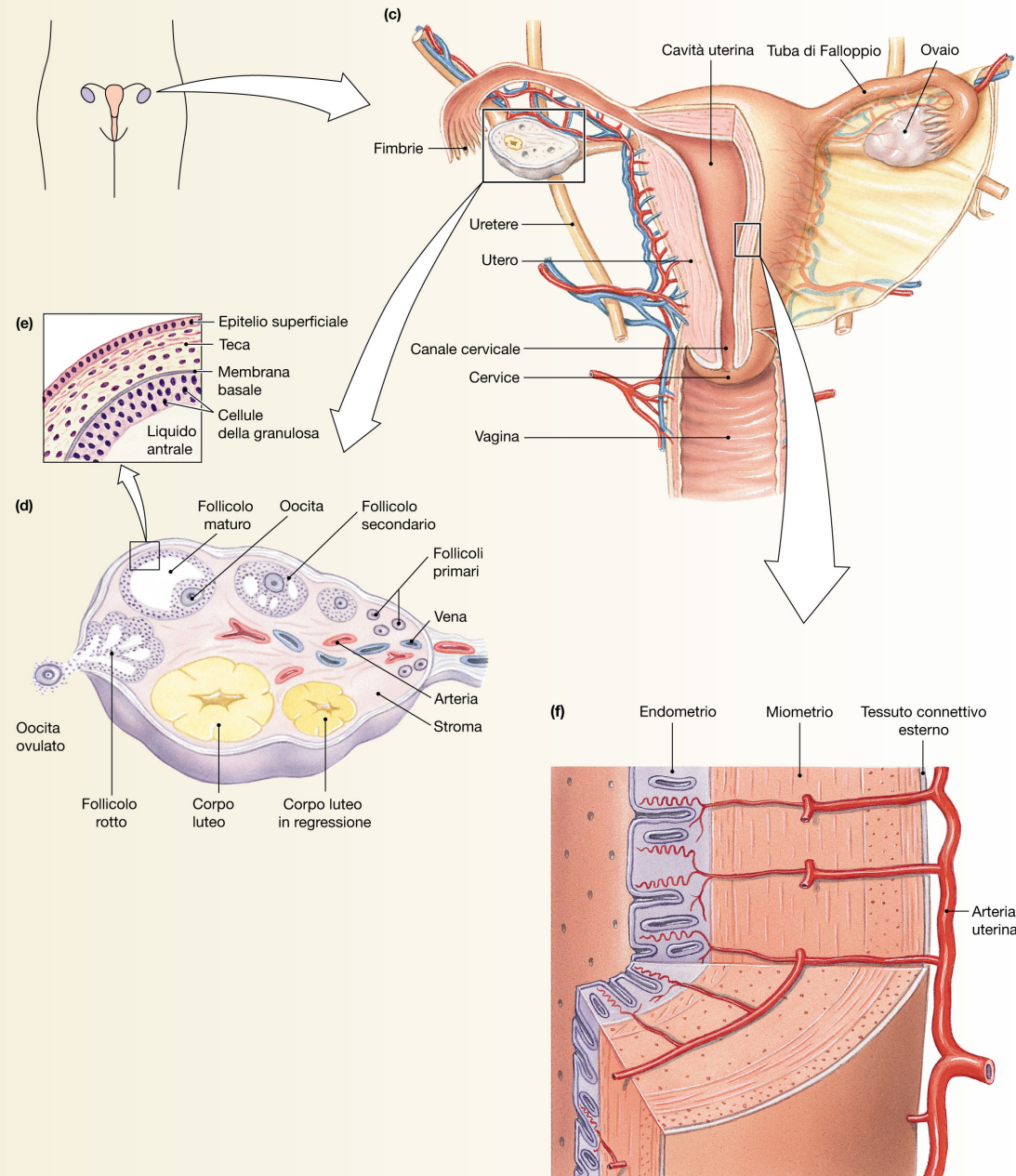
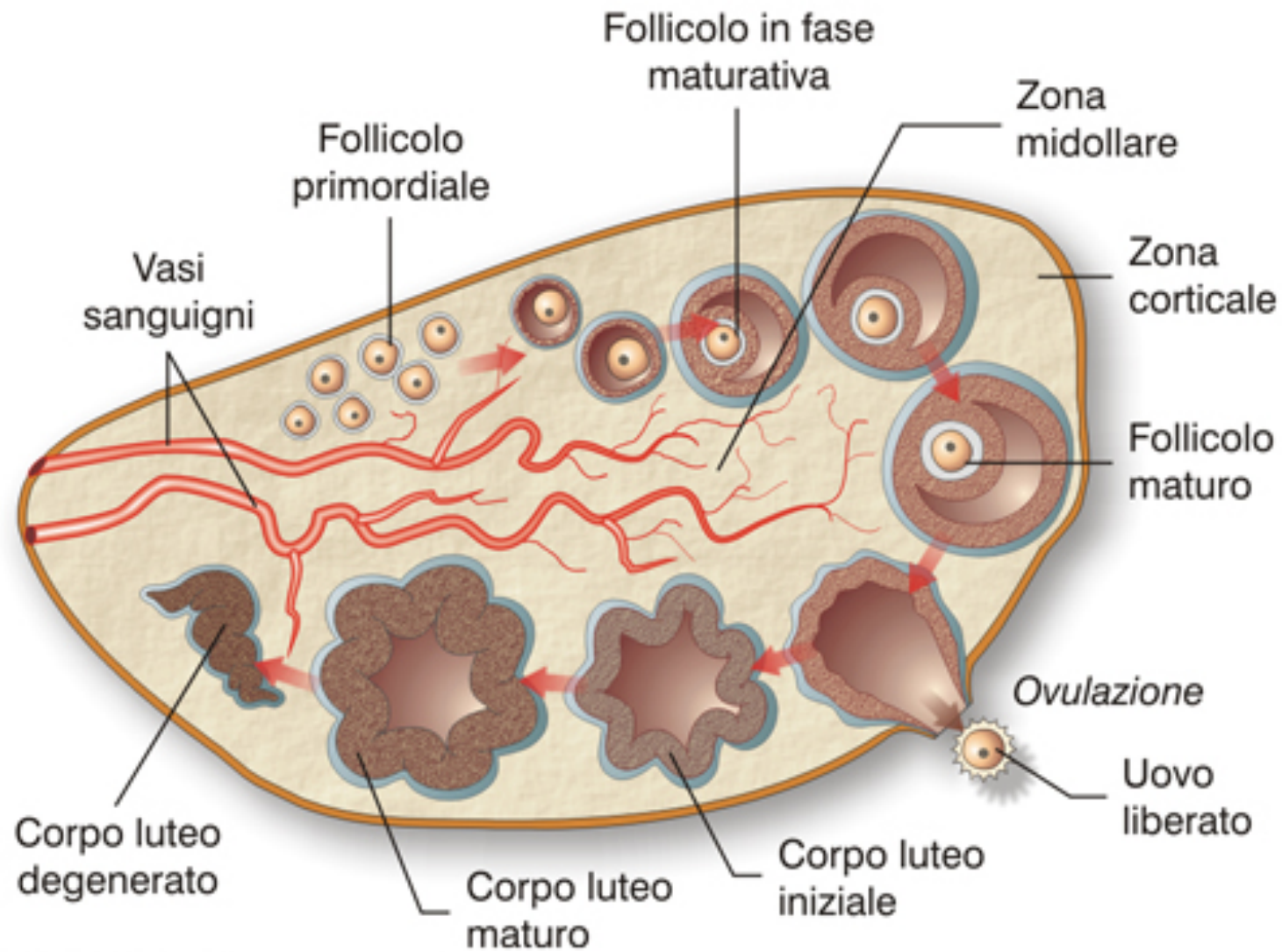


Struttura

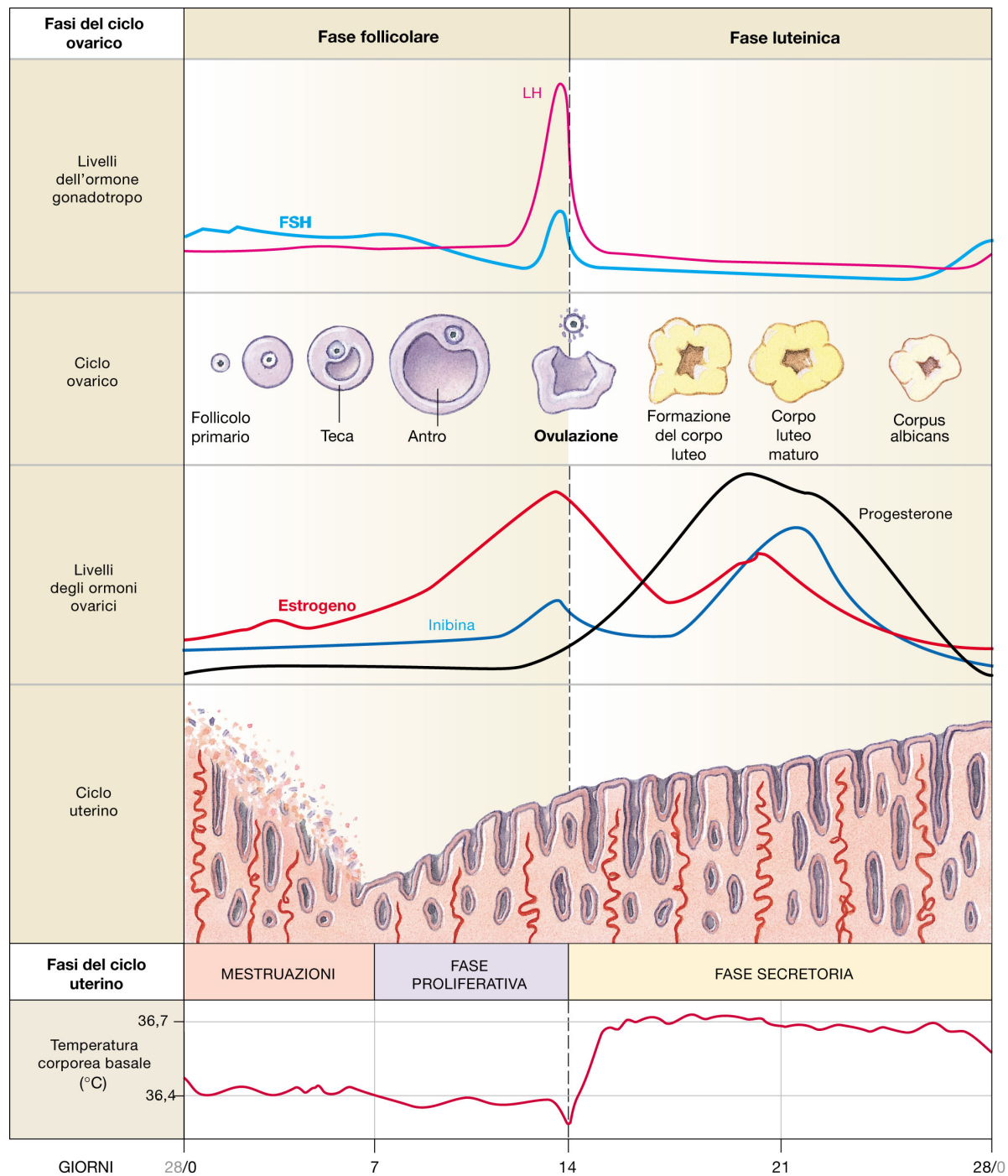
STRUTTURA DELL'UTERO E DELL'OVAIO

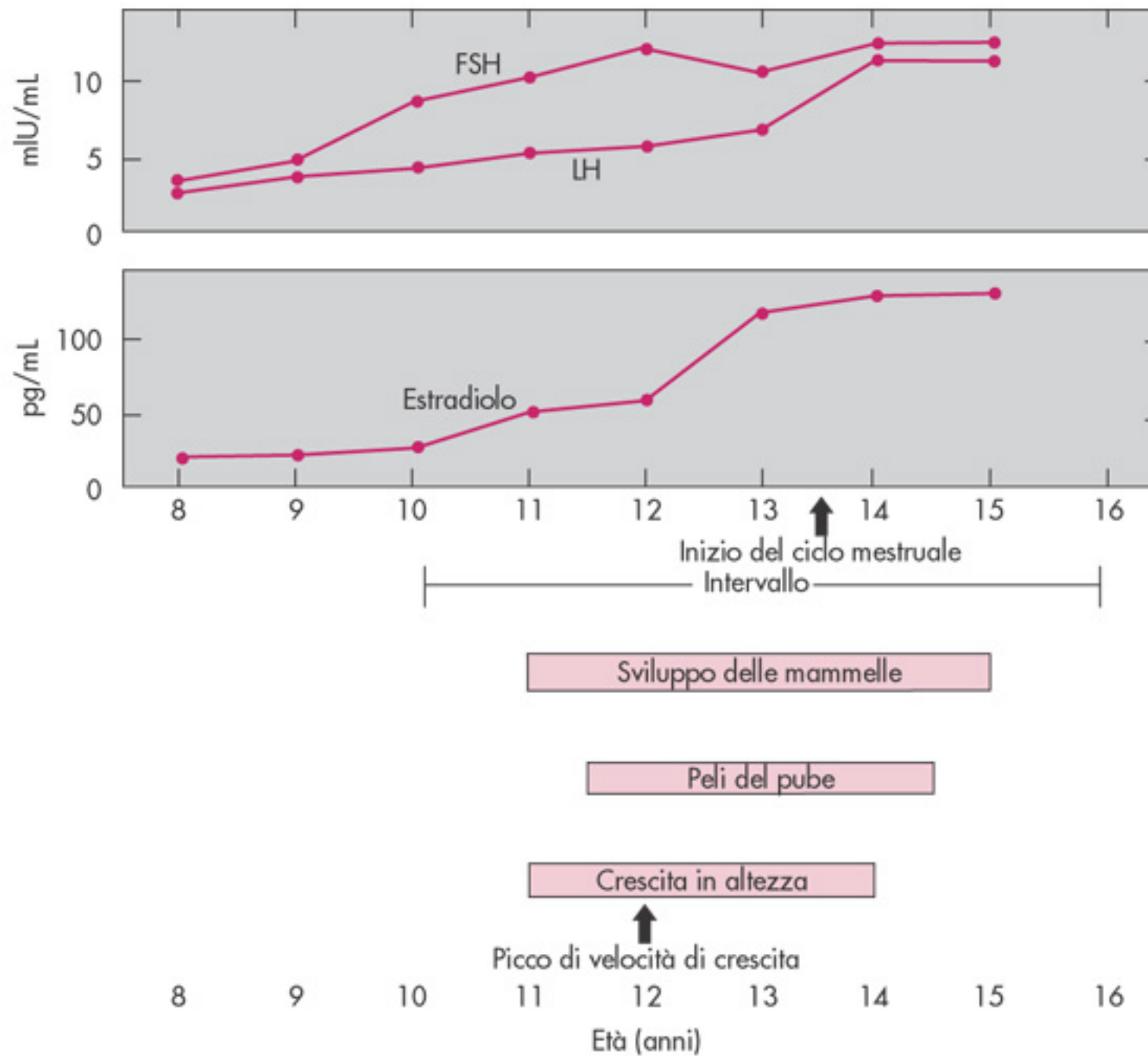


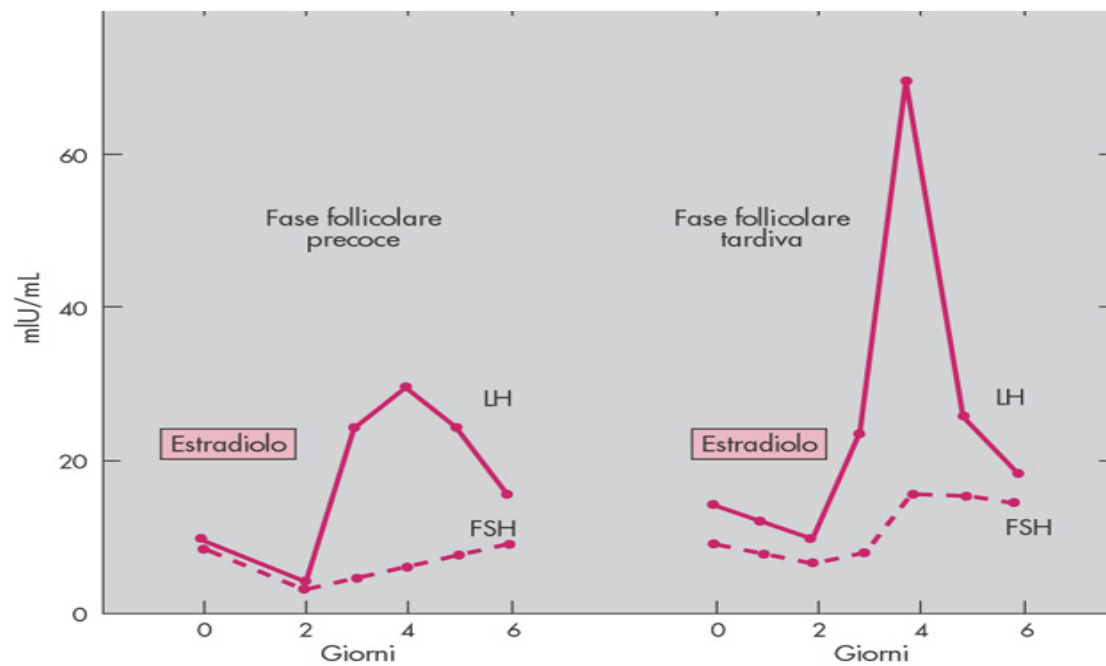
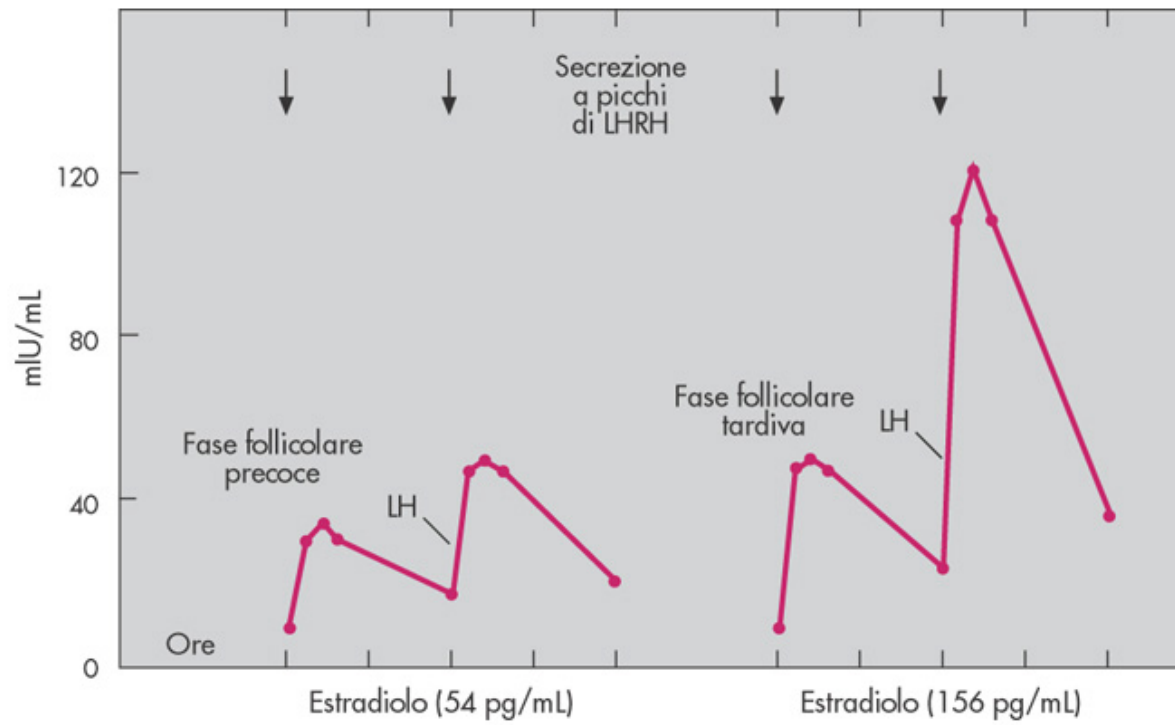
Ovaio

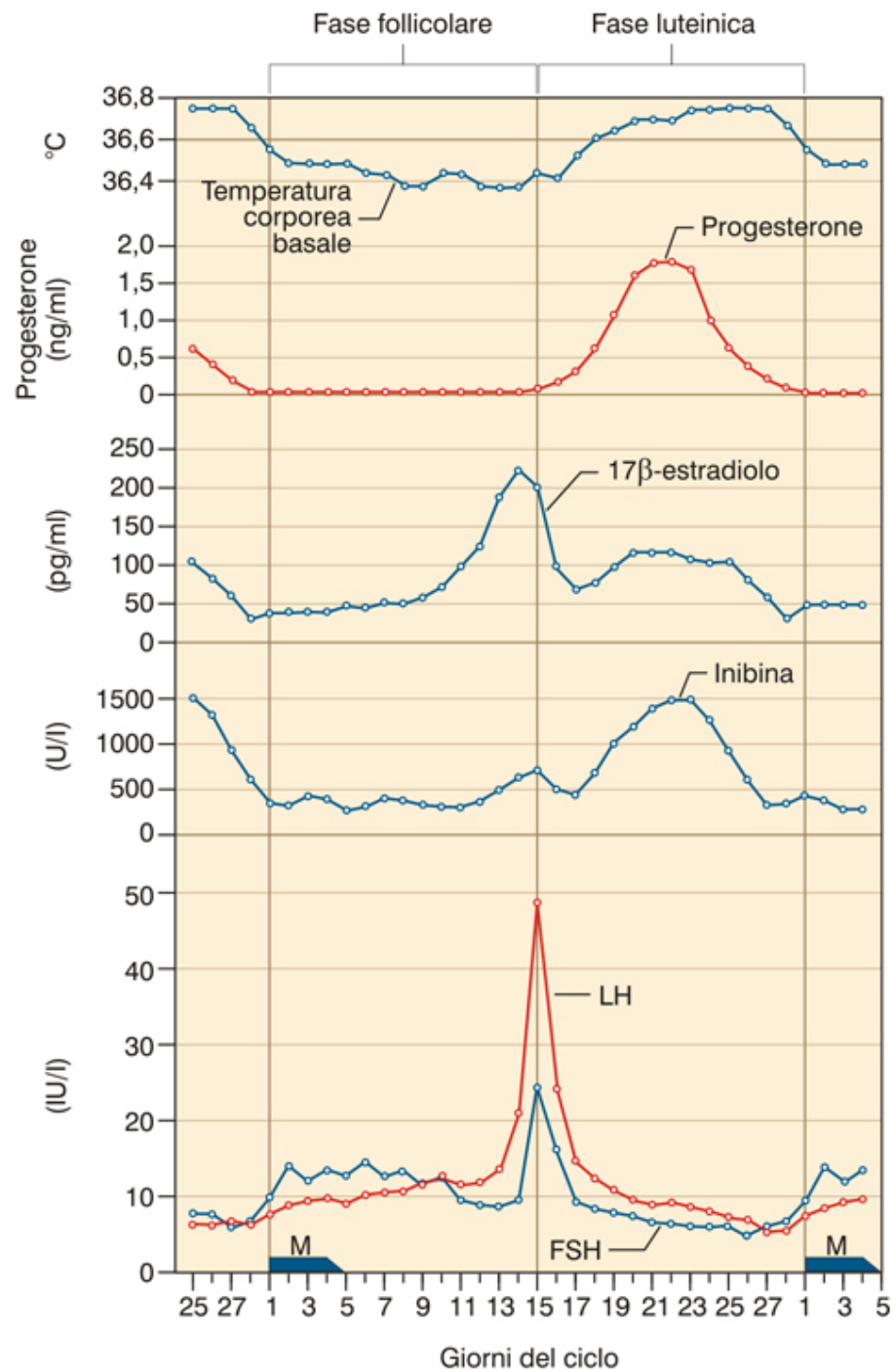


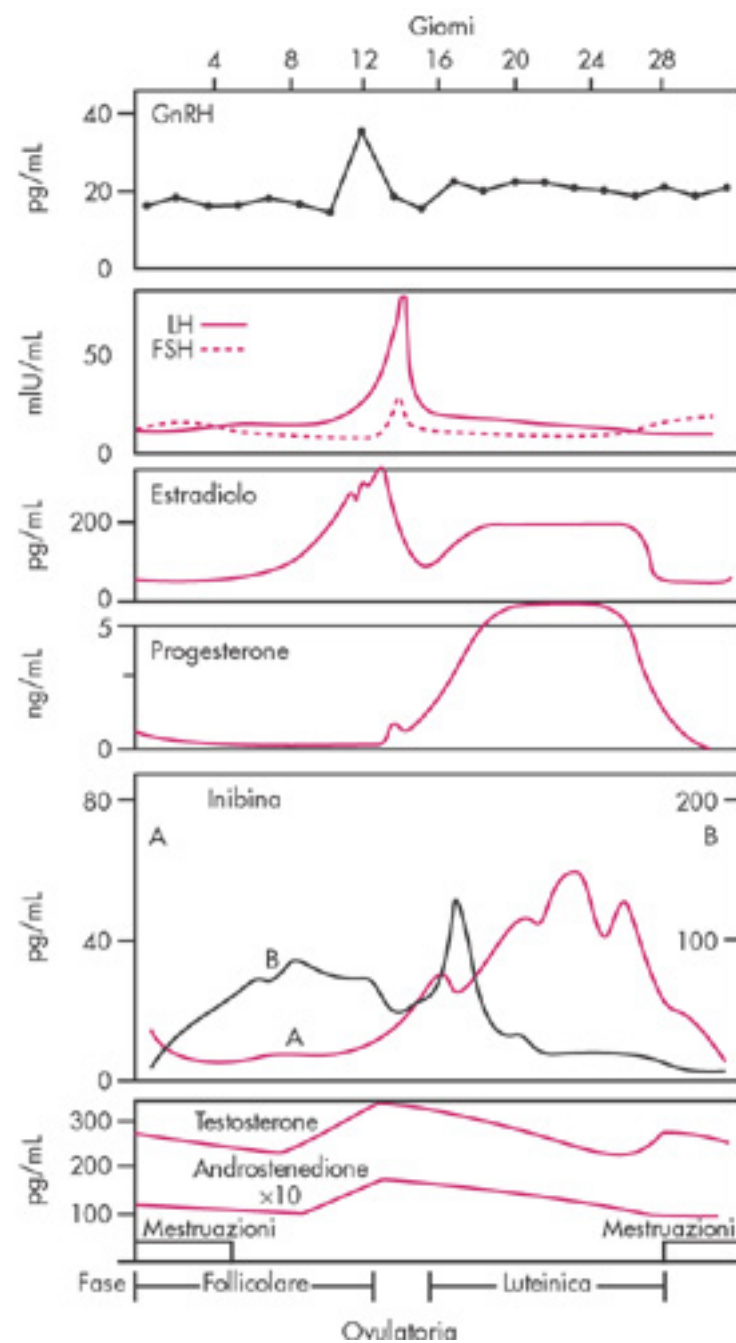
Fasi cicliche

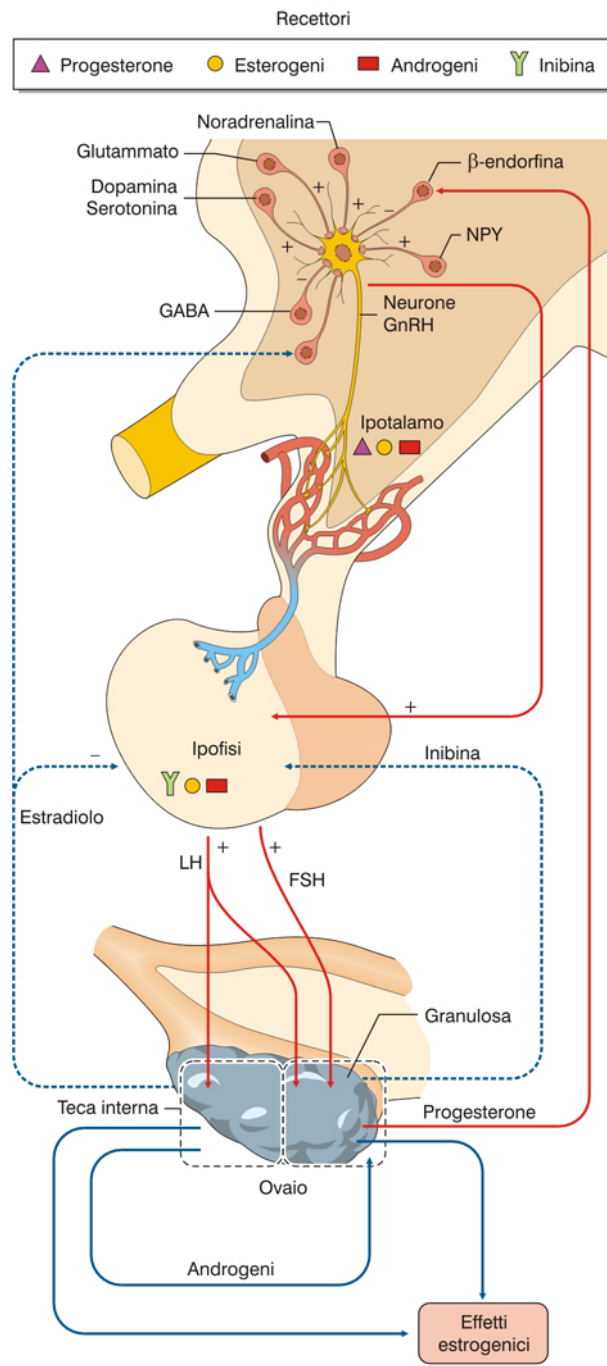






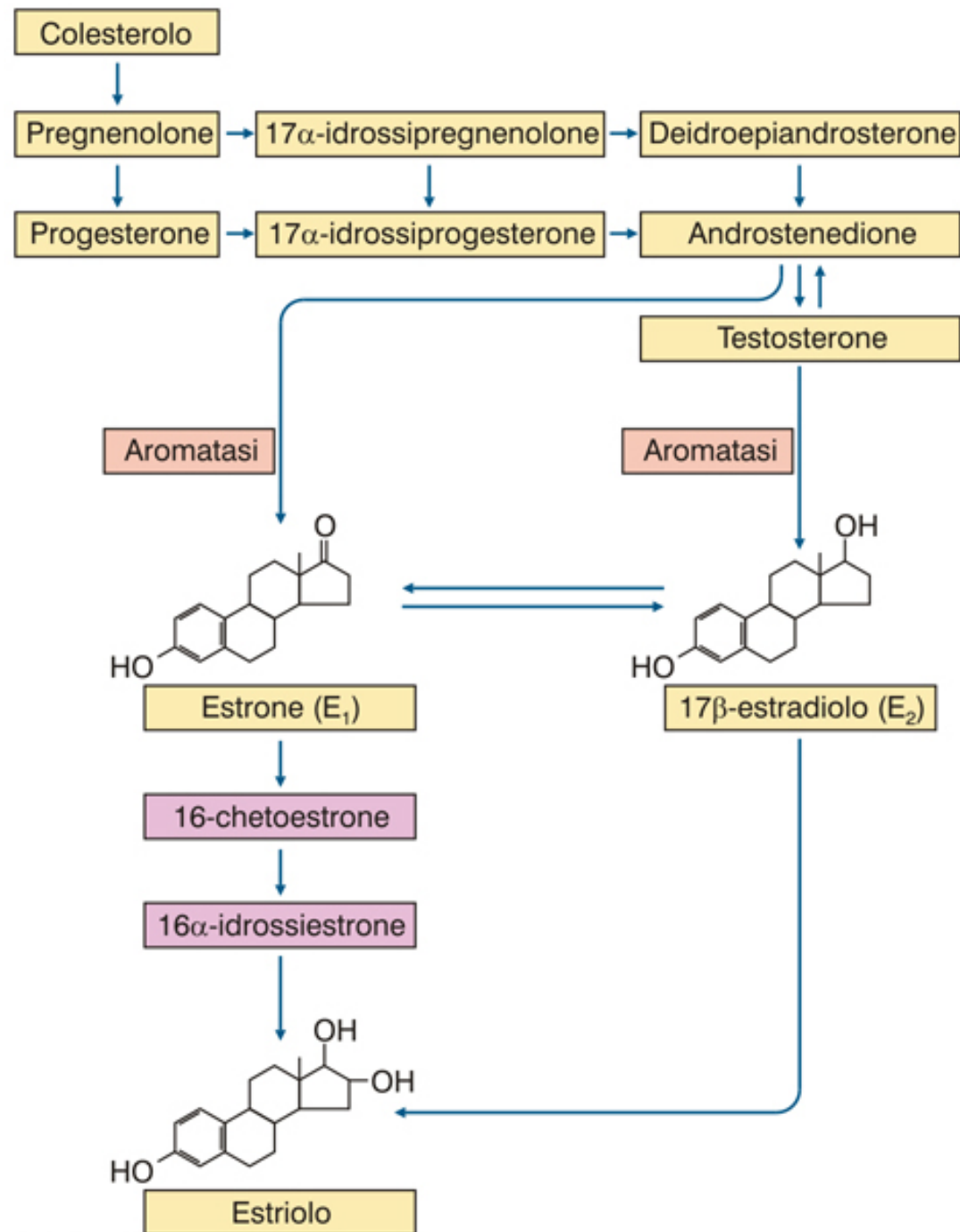


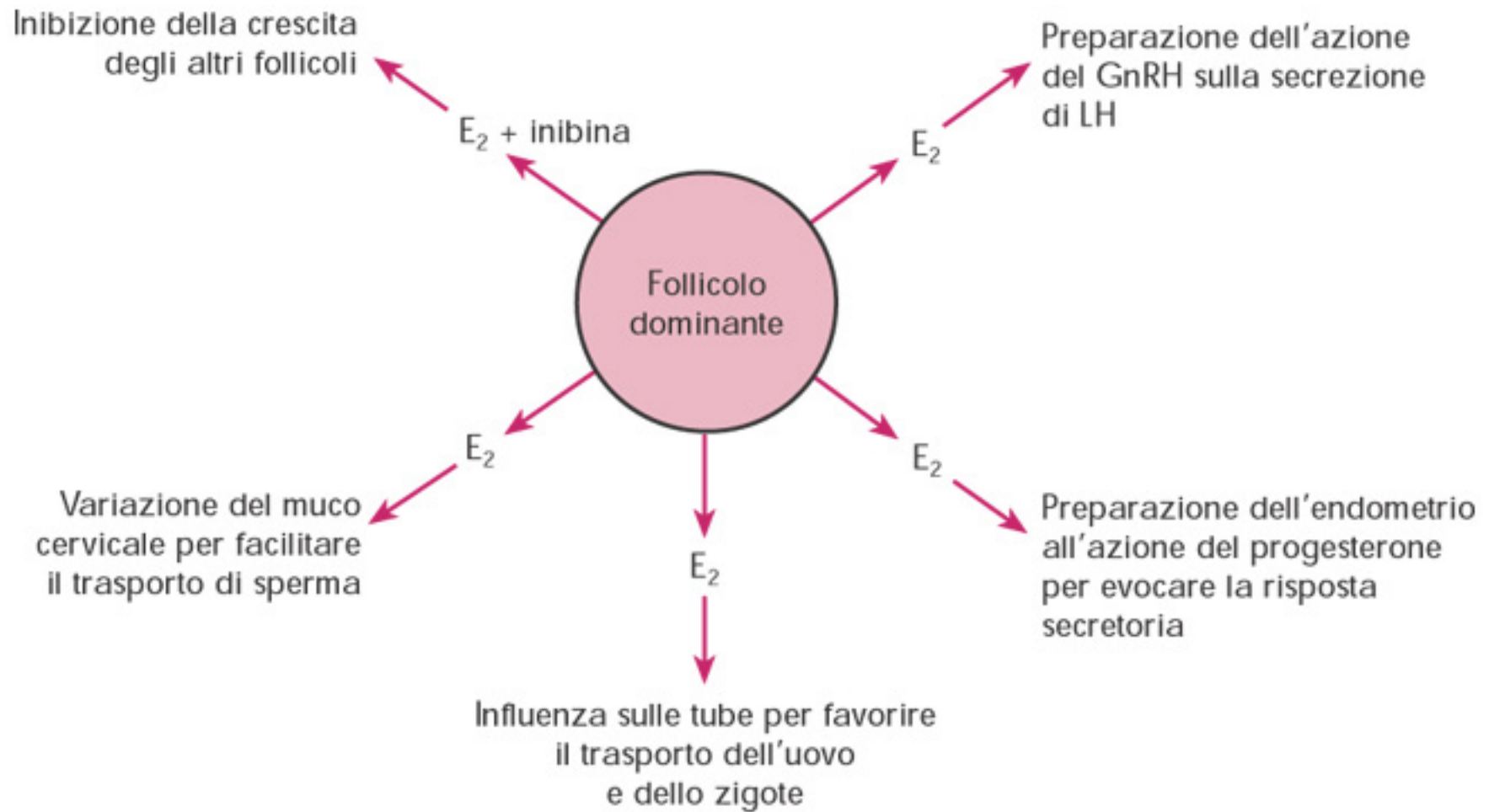


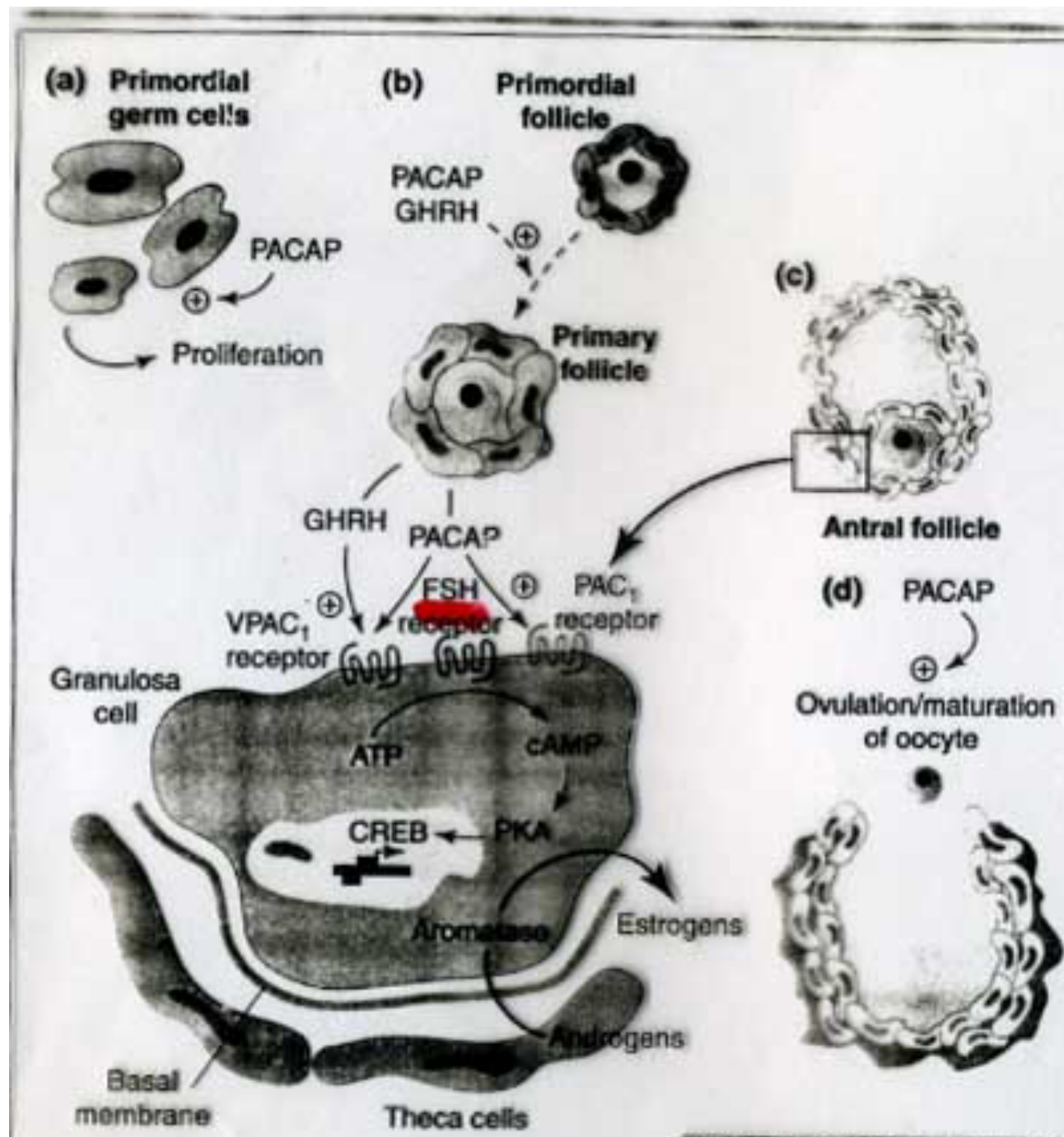


Teca

Granulosa



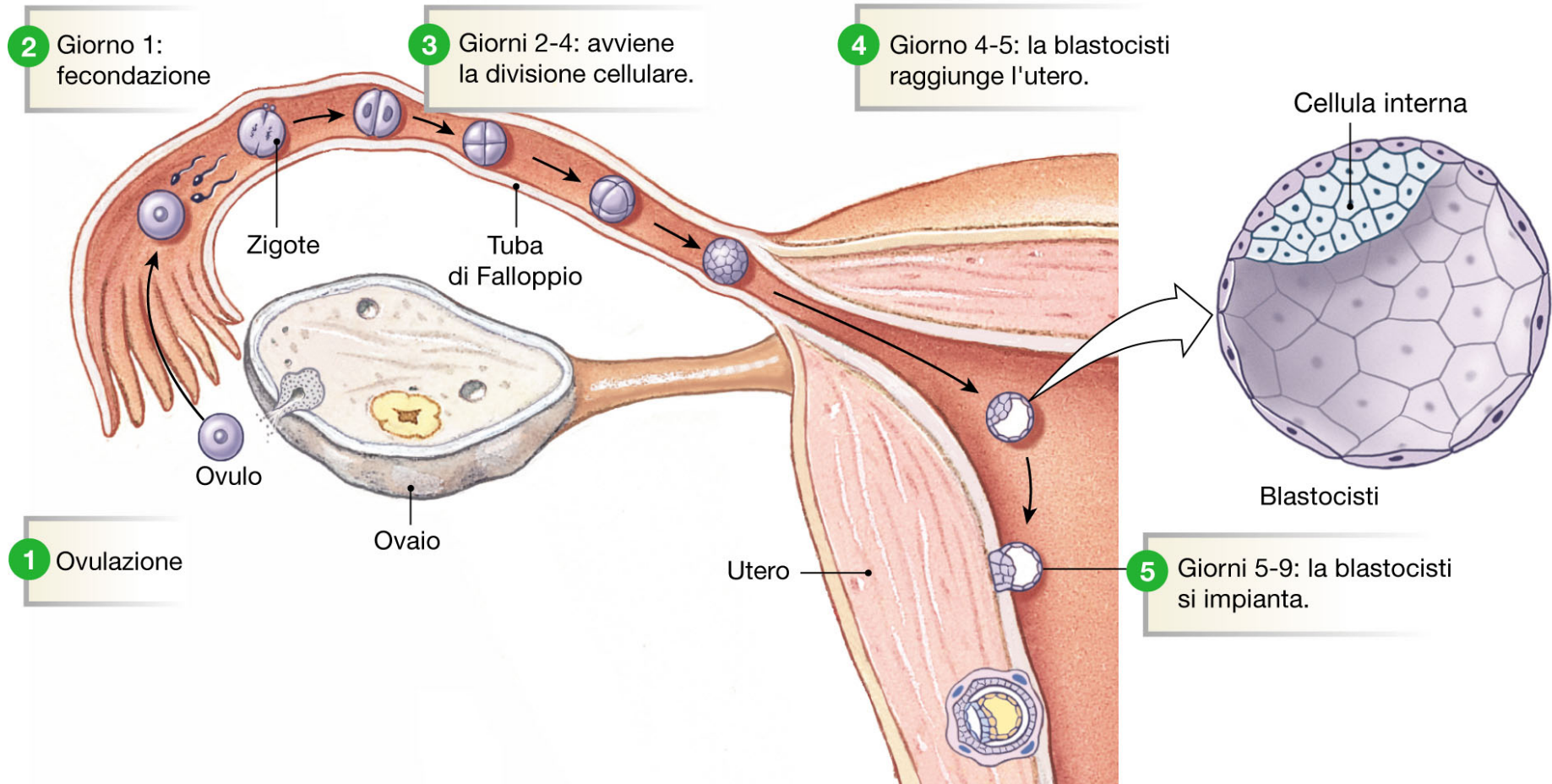




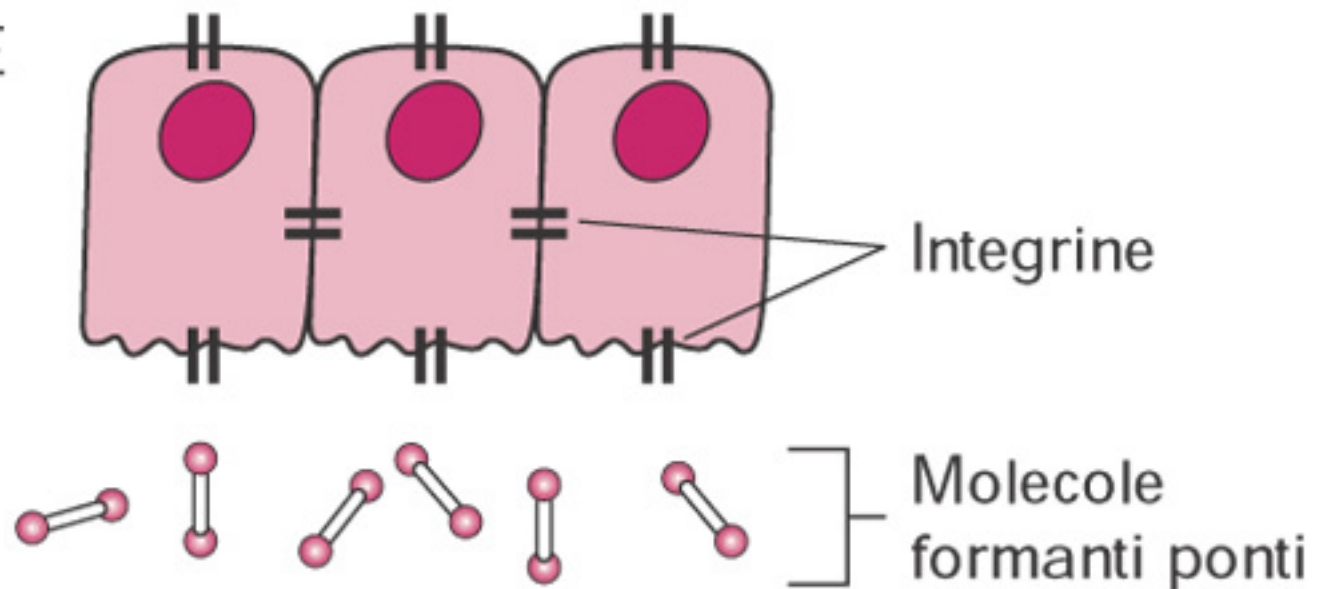
Fattori gonadici

Nonsteroidal Factor	Proposed Function
- Activin - Adenosine - Angiogenic factors - Catecholamines <u>Eicosanoids</u> - Follicular-regulating protein - Follistatin - FSH-binding inhibitor - γ-Aminobutyric acid - LHRH-like peptides - Growth factors <i>NGF</i> - Epidermal growth factor - Fibroblast growth factor - Insulin-like growth factors - Platelet derived growth factor - Transforming growth factors (TGFs) - TGF α - TGF β <i>GDF-9 / KIT-LIGANDO</i> - Inhibin - LH-binding inhibitor - Luteinization inhibitor - Luteinization stimulator - Antimüllerian hormone <i>MIF - AMH</i> - Oocyte maturation inhibitor - Oxytocin (corpus luteum) - Pro-opiomelanocortin-derived peptides - Relaxin - Renin-angiotensin - Substance P - Tissue-type plasminogen activator - Vasoactive intestinal peptide - Vasopressin	- Stimulates FSH release - Regulation of atresia, maintenance of corpus luteum, regulation of oocyte maturation - Neovascularization of corpus luteum - Modify steroidogenesis <u>Ovulation, corpus luteum regulation</u> <u>Atresia, aromatase inhibitor, inhibition of FSH action</u> - Suppresses FSH release - Inhibits binding of FSH to receptor - Unknown ? modulation of ovarian function - Stimulatory and inhibitory actions on FSH and LH, regulation of atresia - Mitogenic-granulosa, <u>inhibits steroidogenesis, atresia</u> - Mitogenic, <u>inhibits steroidogenesis, atresia</u> - Mitogenic, <u>stimulate steroidogenesis</u> ? enhances steroidogenesis - Growth regulation - Stimulates FSH release, stimulates steroidogenesis-granulosa, inhibits steroidogenesis-theca, inhibits granulosa cell growth - Inhibits FSH release - Inhibits binding of LH to receptor - Inhibits corpus luteum development and function - Stimulates corpus luteum <u>Development and function unknown</u> <u>Inhibits meiosis</u> - Modulates progesterone secretion, regulates life span of corpus luteum - Unknown - Remodeling of reproductive tract, modulates corpus luteum - Ovulation, regulation of steroidogenesis - Regulation of ovarian blood flow - Ovulation, atresia - Stimulates steroidogenesis - Unknown
*GnRH - GHRH - PACAP	

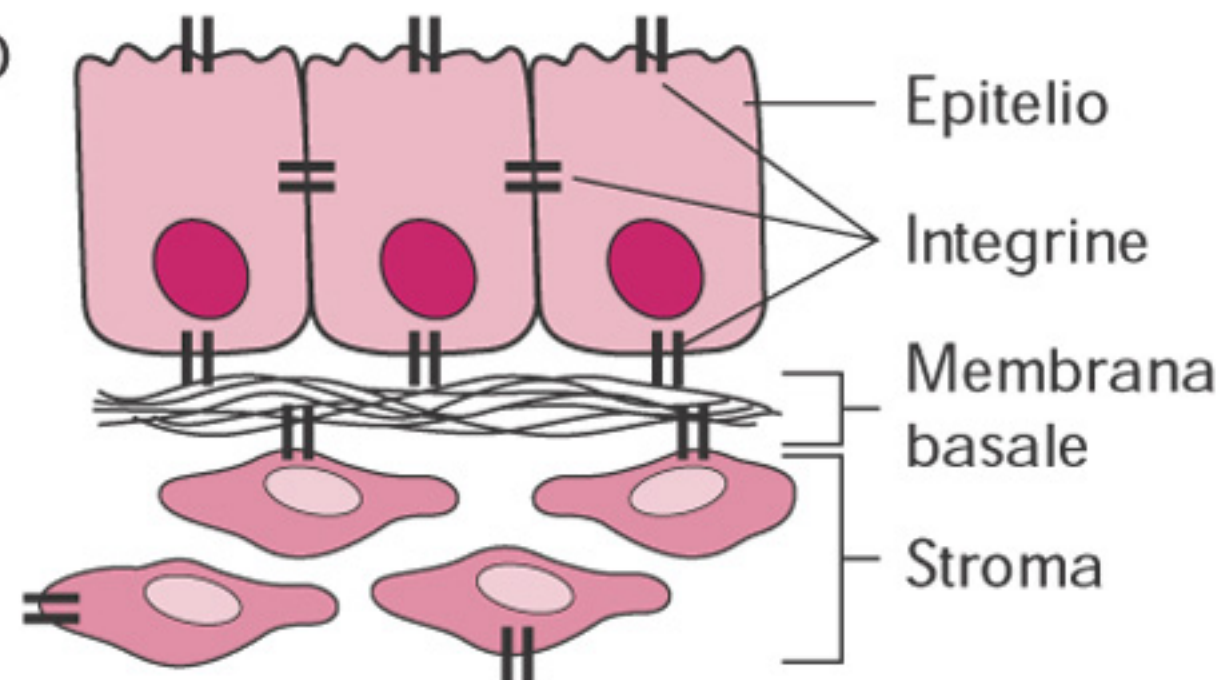
Fecondazione



EMBRIONE



ENDOMETRIO



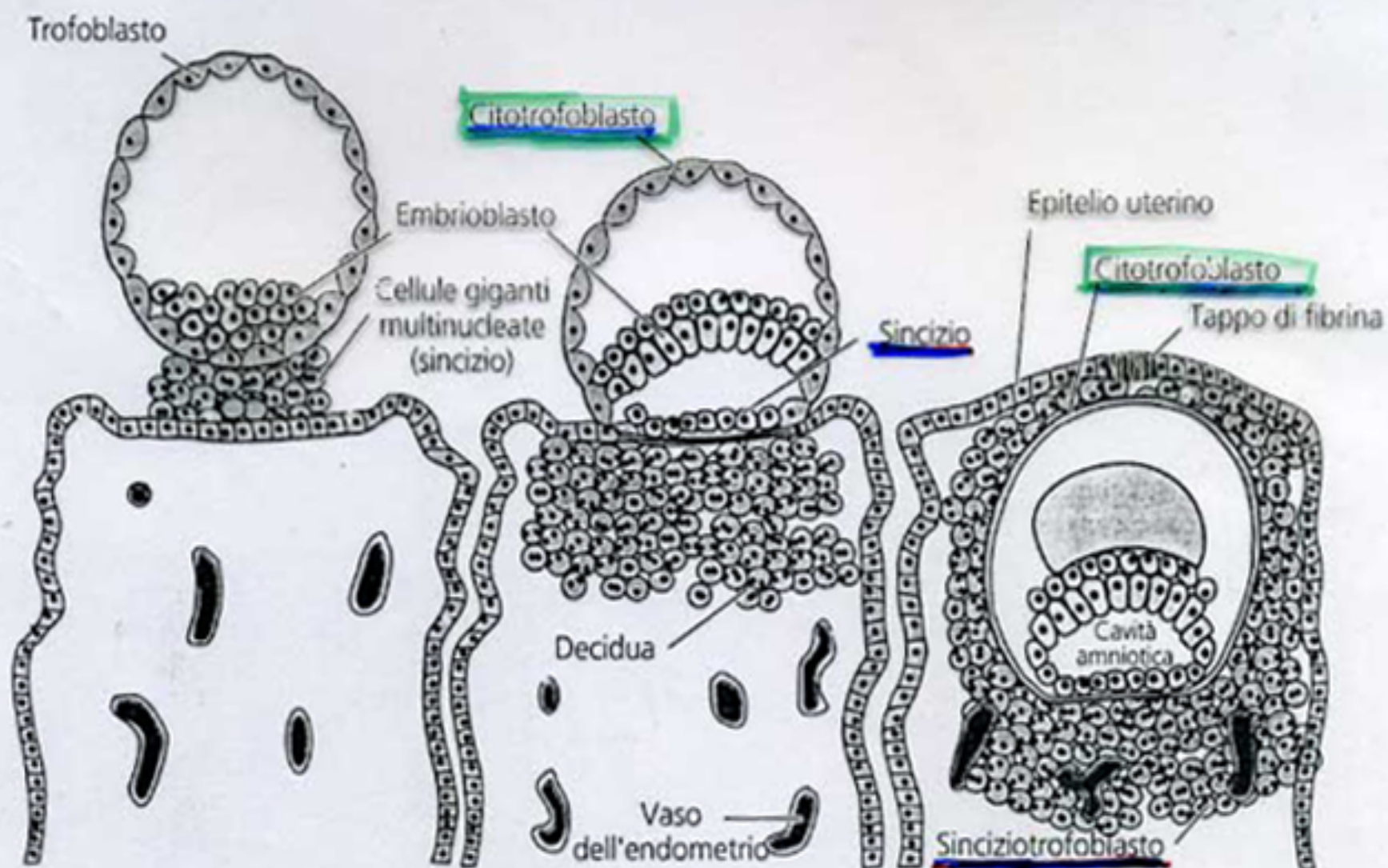


Figura 41-3 ■ Processo di impianto dell'embrione e reazione deciduale.

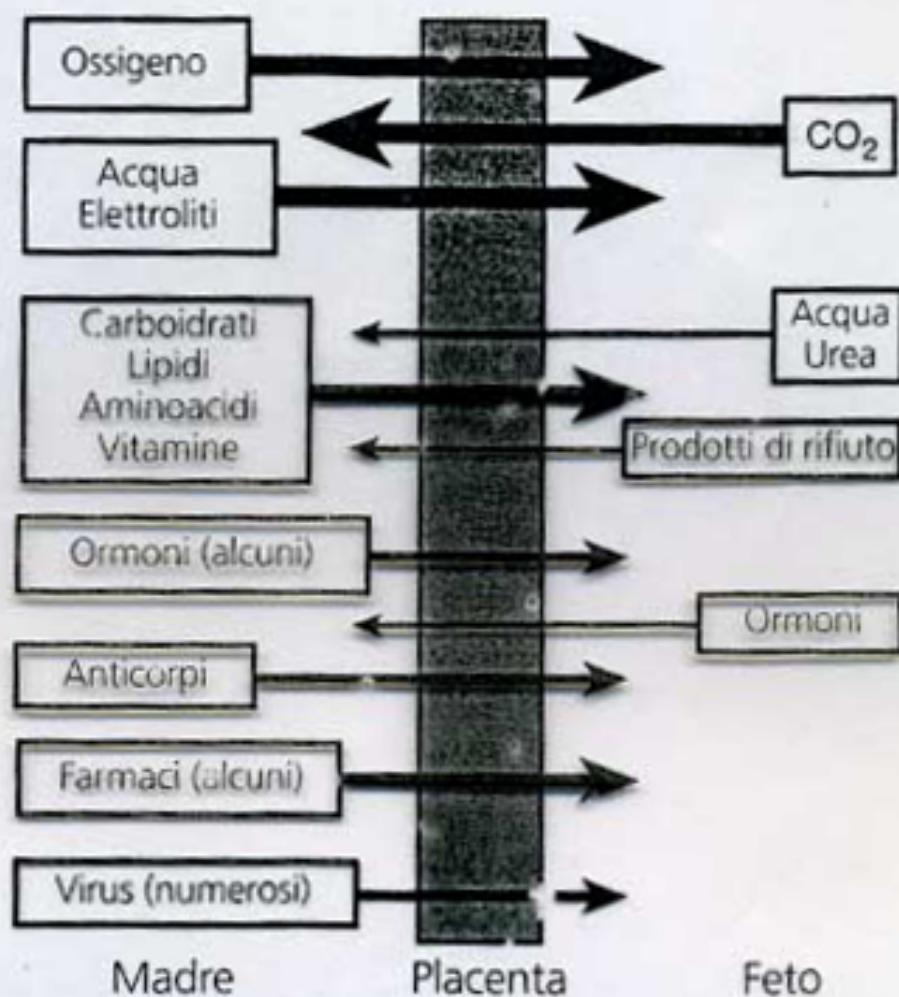


Figura 41-5 ■ Ruolo della placenta nelle interazioni bidirezionali tra i compartimenti fetale e materno. La dimensione delle frecce indica l'importanza quantitativa degli scambi tra i due compartimenti.

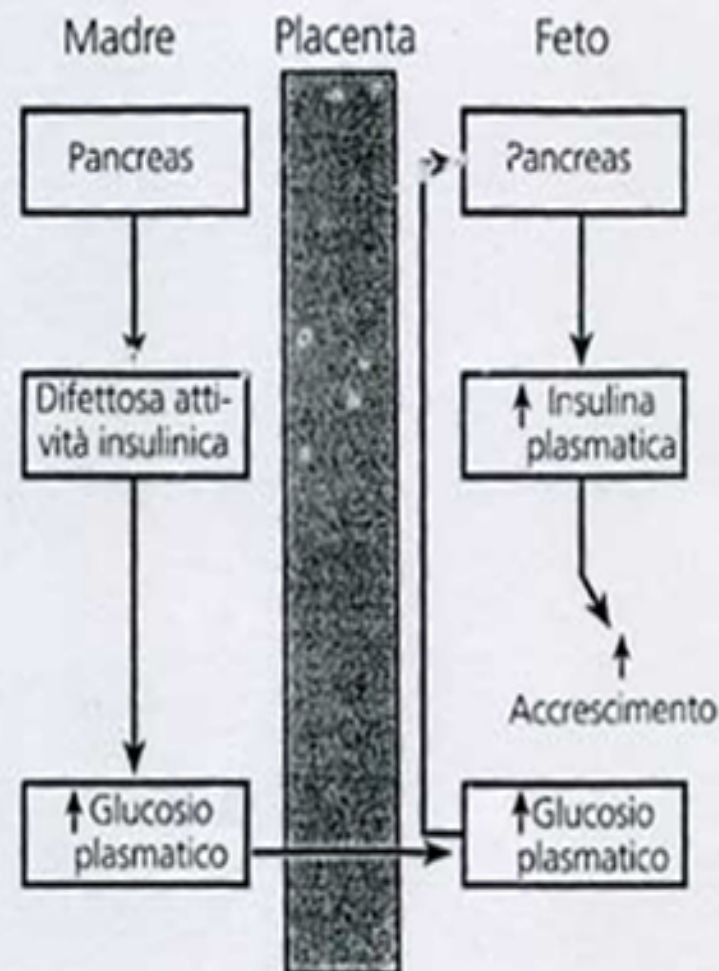
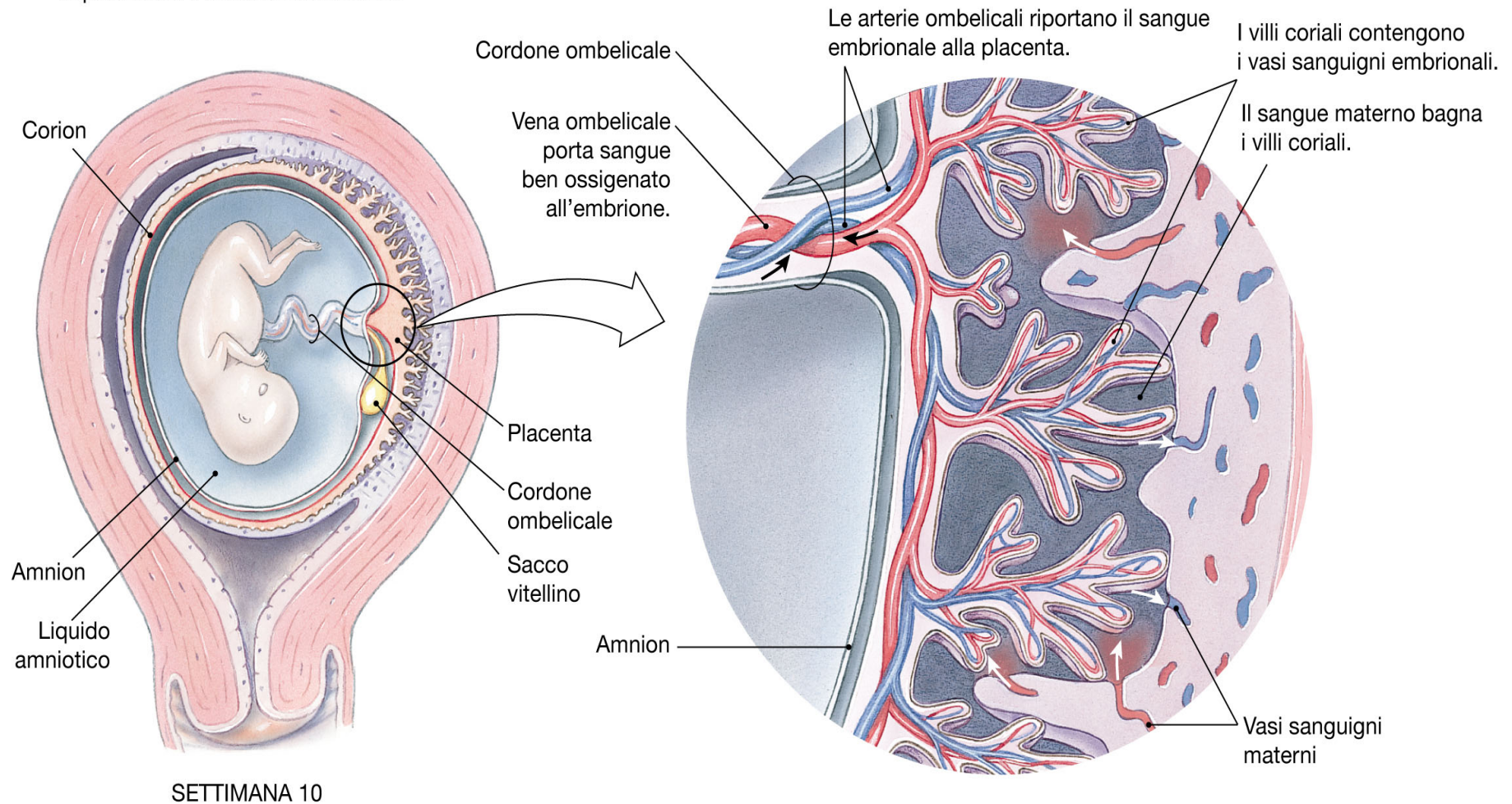


Figura 41-8 ■ Effetti del diabete materno sull'accrescimento fetale.

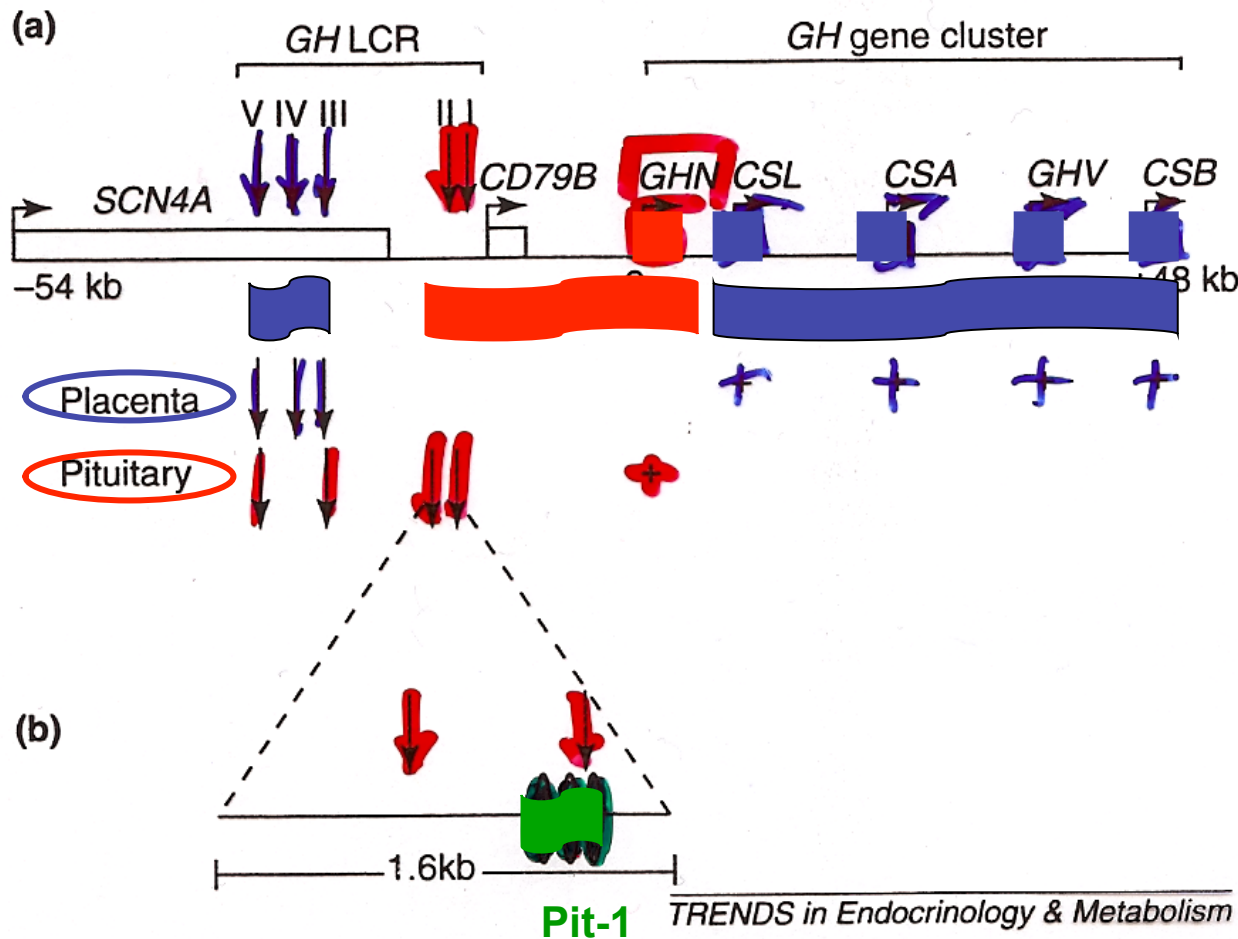
Placenta

(a) L'embrione in via di sviluppo flotta nel liquido amniotico. Esso ottiene ossigeno e nutrienti dalla madre attraverso la placenta e il cordone ombelicale.

(b) Alcune sostanze sono scambiate attraverso le membrane placentari per diffusione, ma altre devono impiegare dei meccanismi di trasporto.



Chr. 17



Prolattina

Chr 6

Pit-1

GH-N ormone della crescita

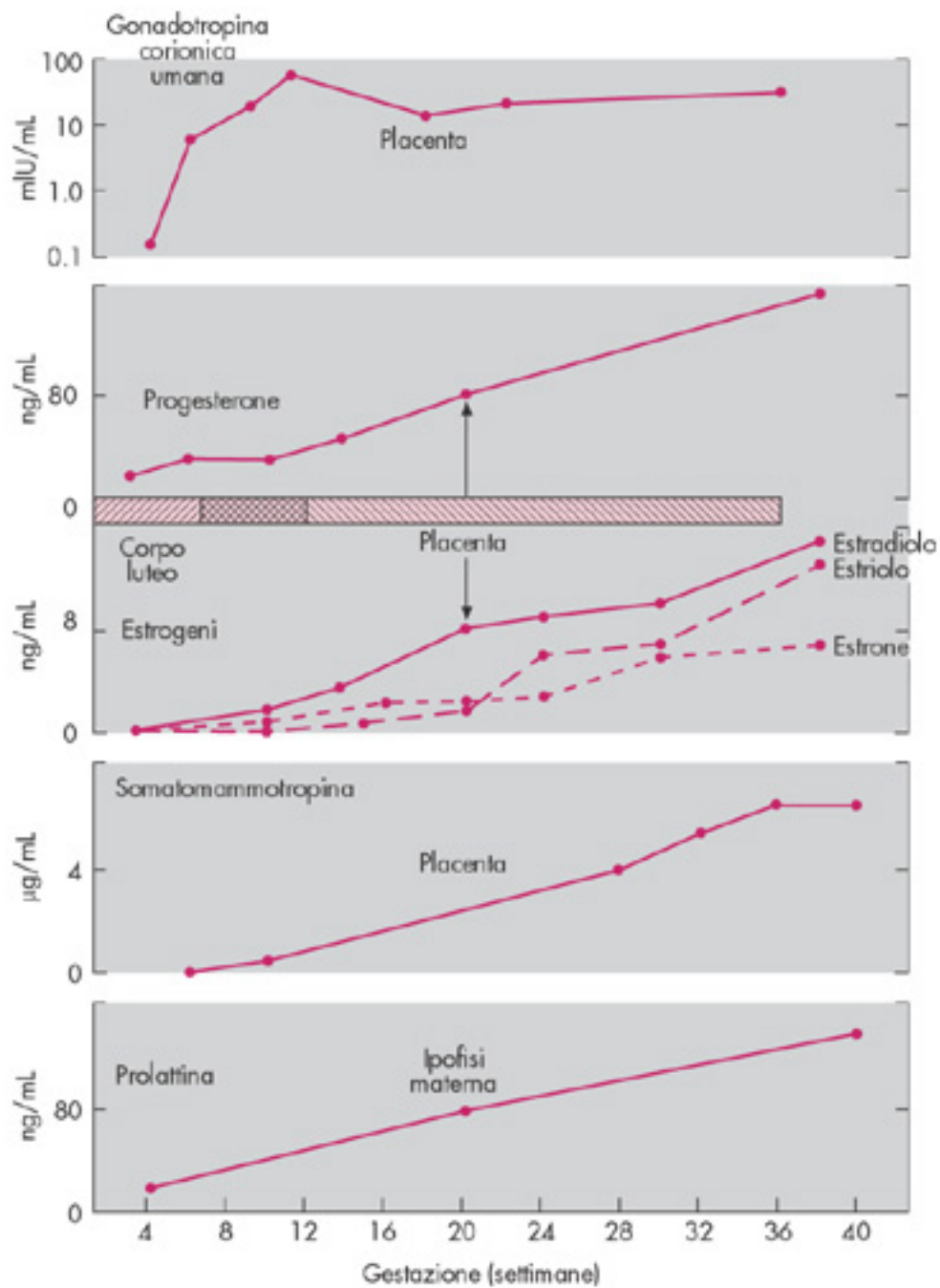
CSL pseudogene

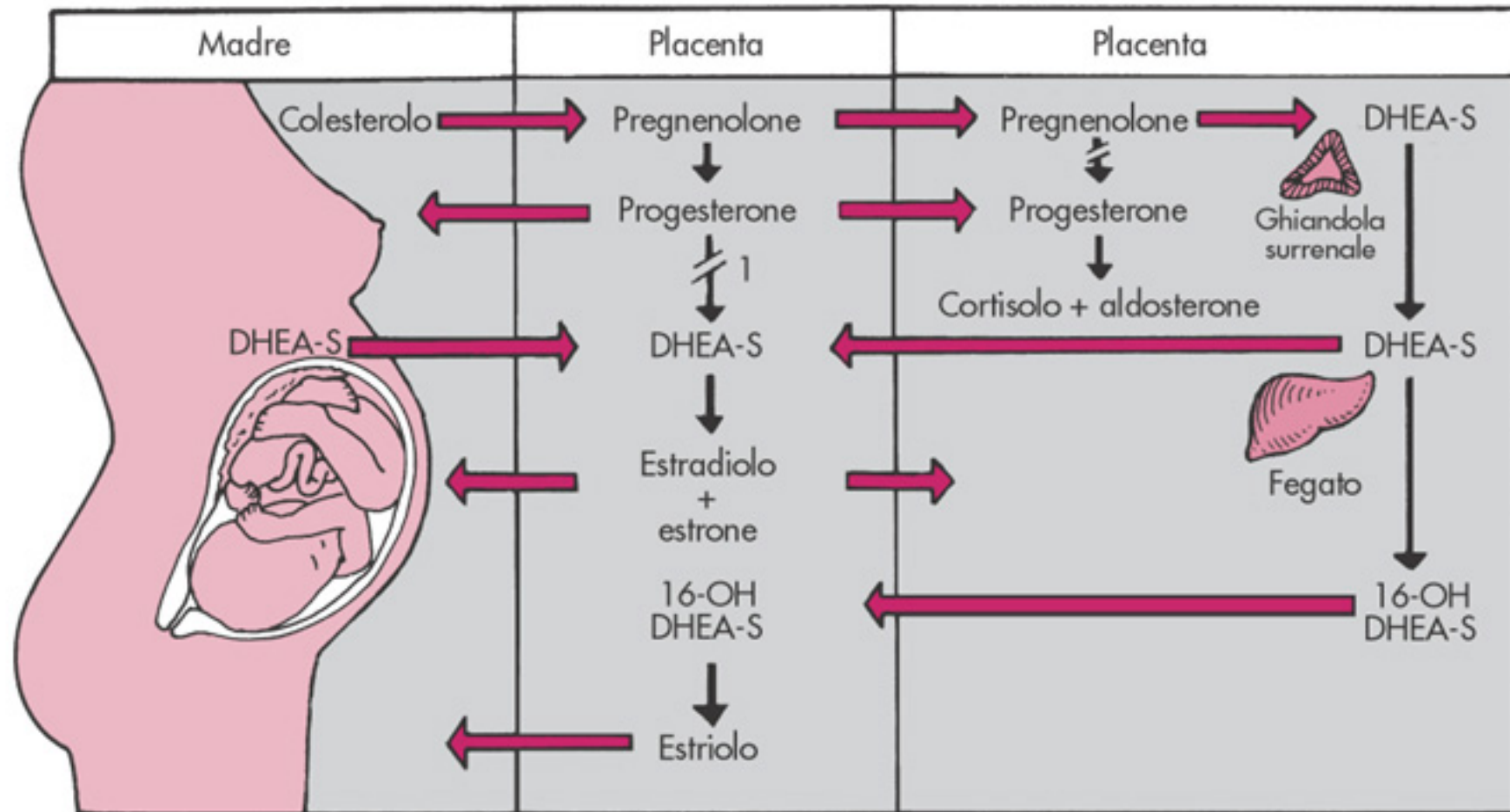
CS-A somatomammotropina (Corionic somatotropine A)

GH-V ormone della crescita placentare

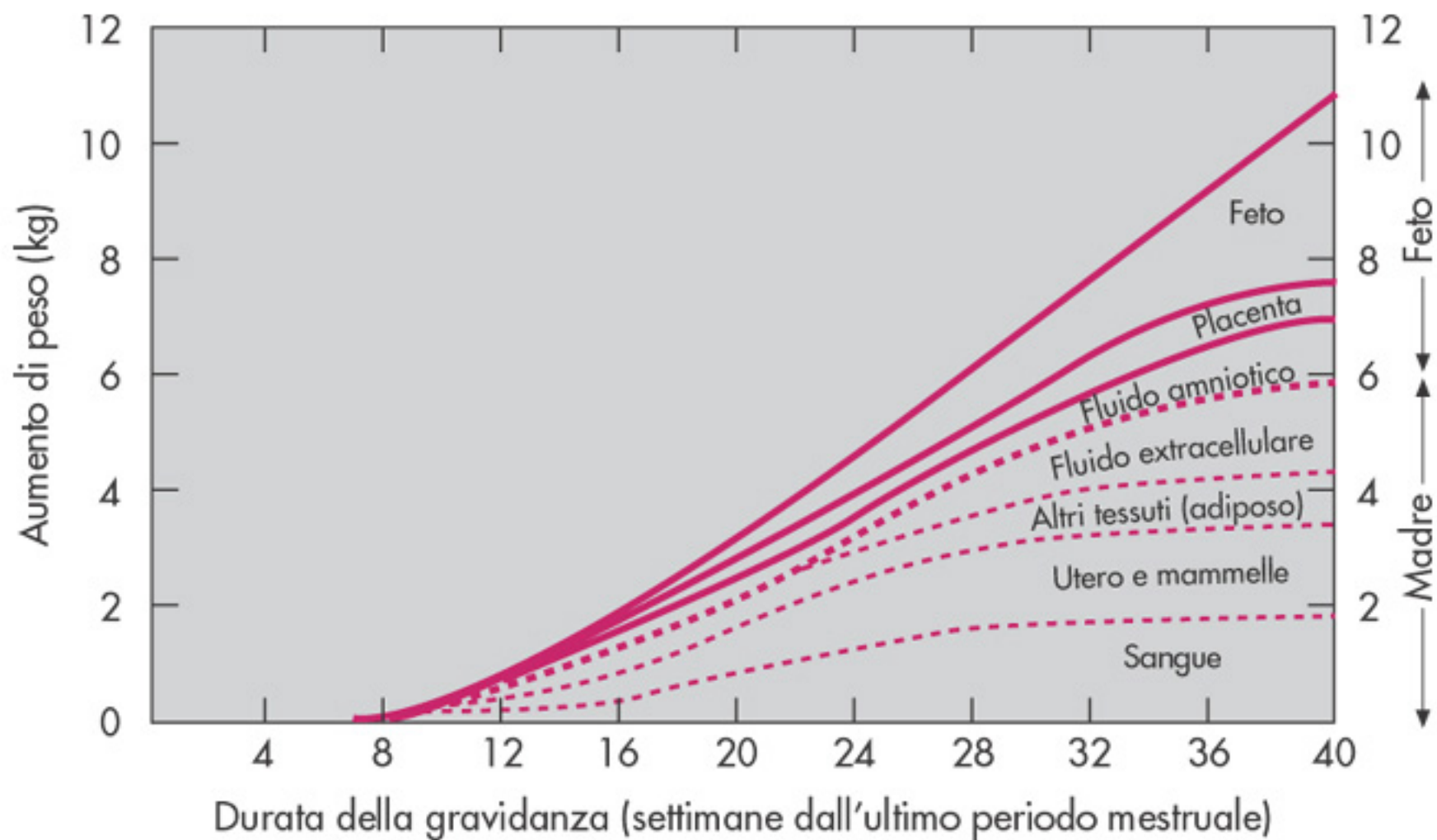
CS-B somatomammotropina

Ormoni placentari

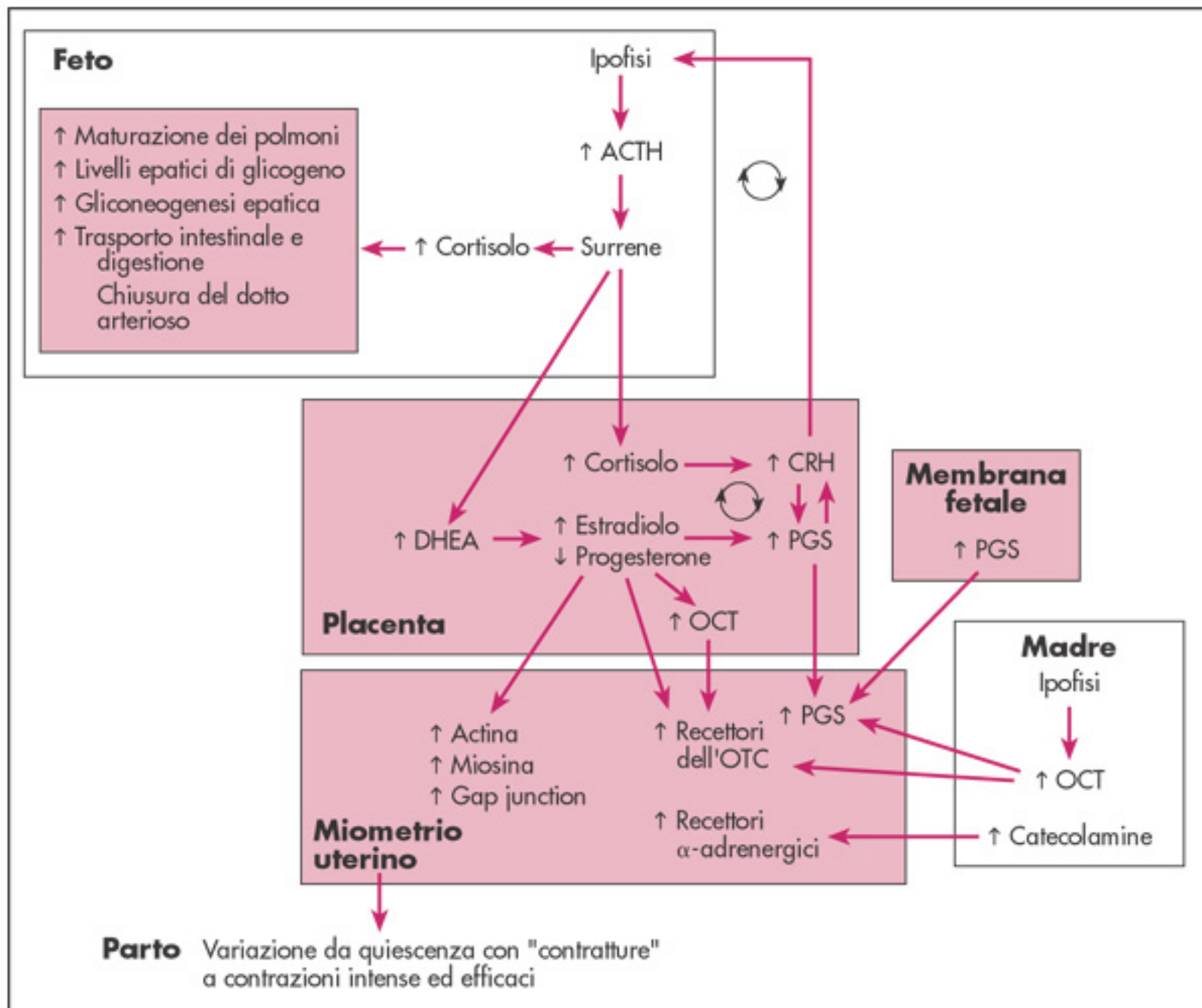


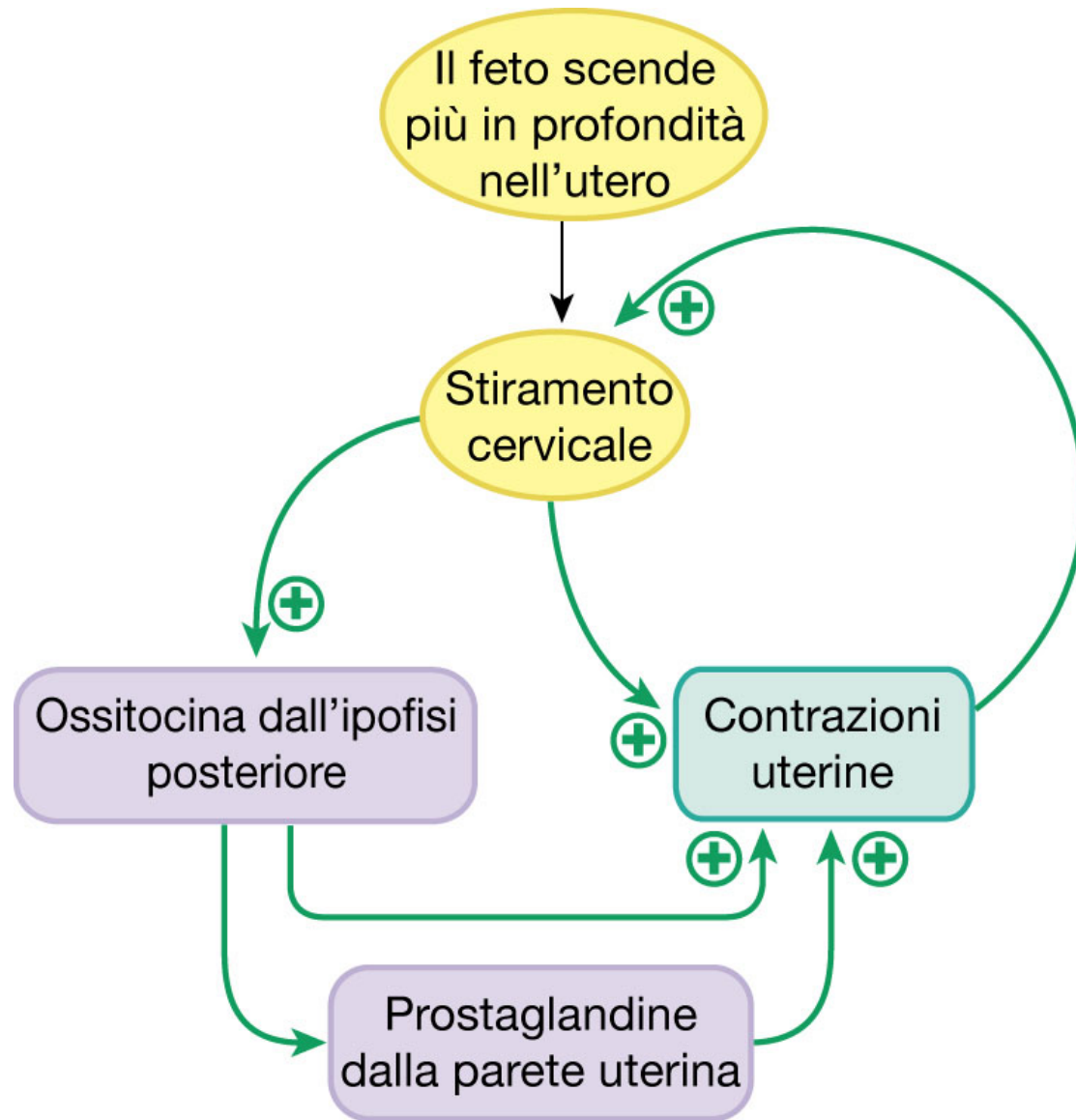


Anabolismo materno

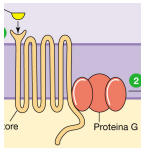
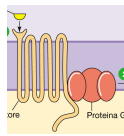


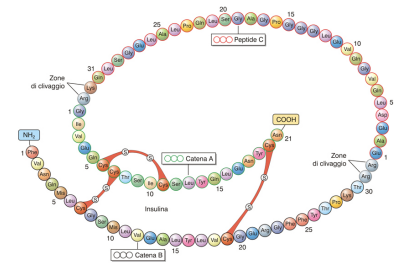
Parto



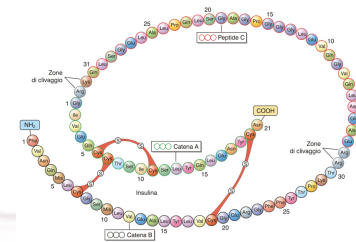


FATTORI INSULINO SIMILI

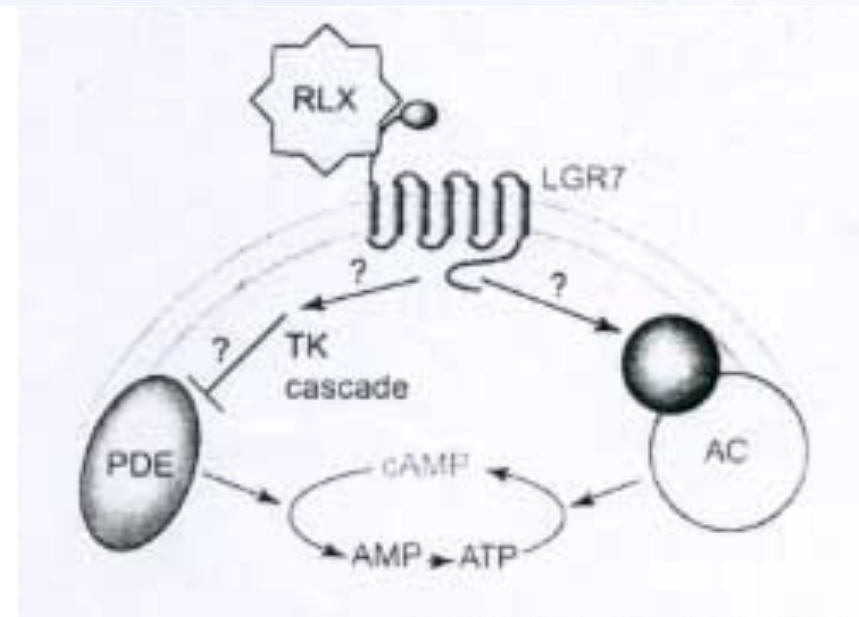
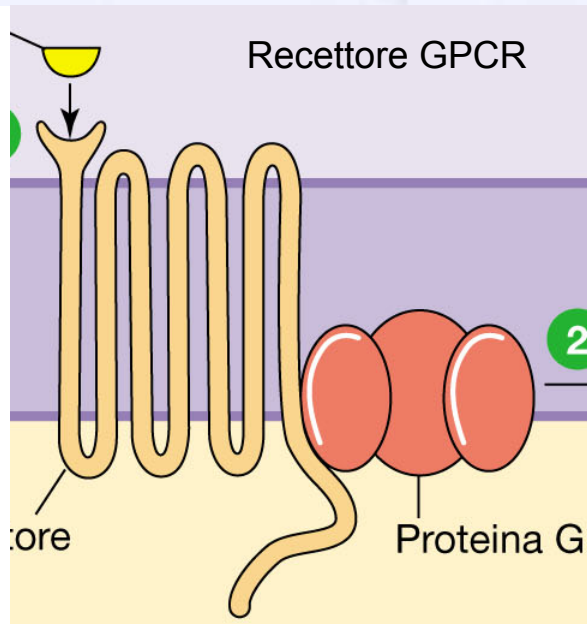
Fattore	Croms	Tipo recettore	Provenienza
INSULINA	11		Pancreas
IGF-1	12		Fegato ed altri tessuti
IGF-2	11		Fegato ed altri tessuti
INSL3	19		Ledyg specifico
INSL4	9		Placenta (placentina)
RELAXINA-1	9		Utero palcenta---parto
RELAXINA-2	9		Ovaio gravidanza



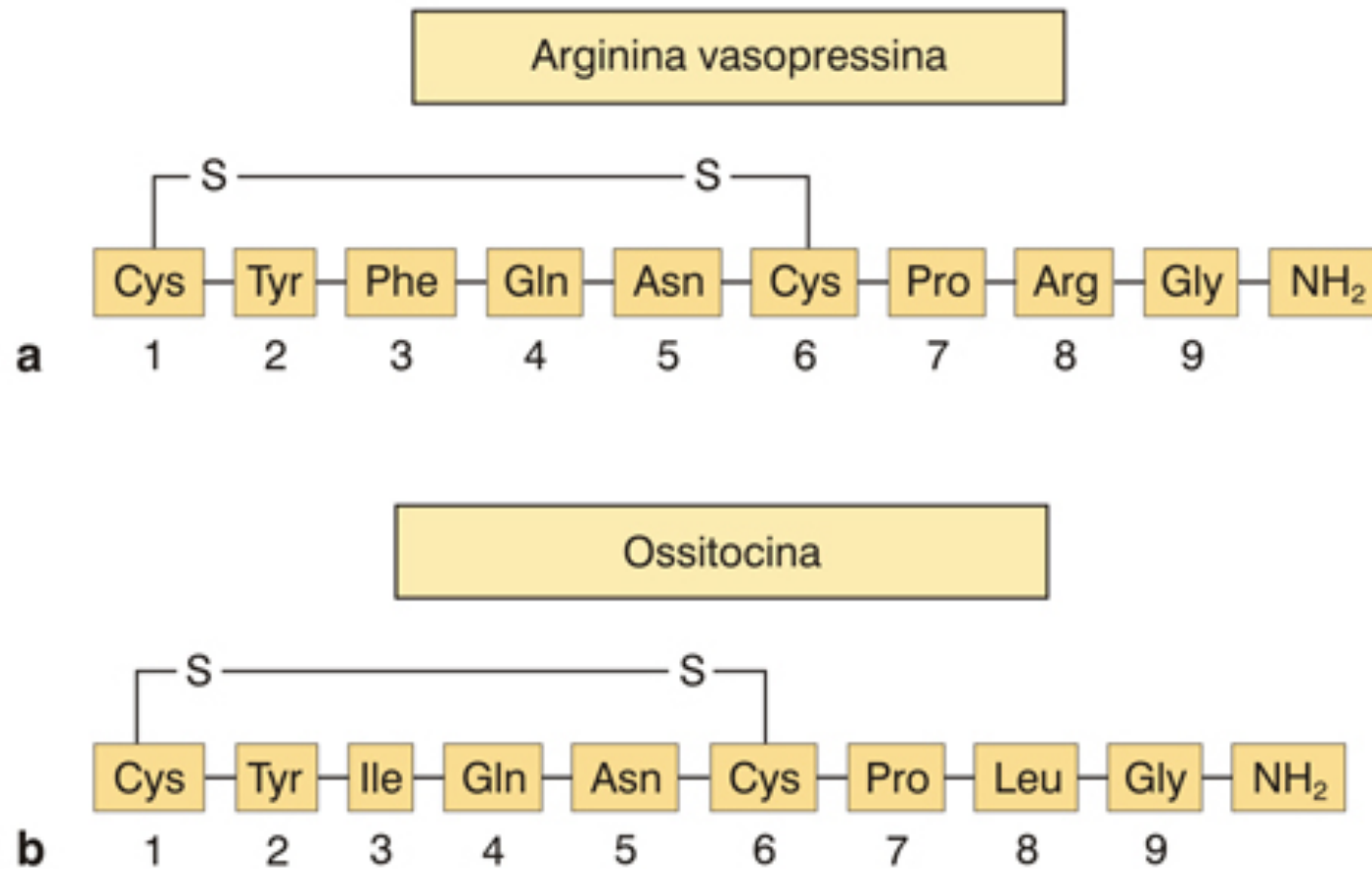
Relaxine Insulina simili



	Signal peptide	B-domain		A-domain
h-RLX1	MPRLFLPHLLEFCLLLNQPSRAVAA	--KWKDDVIKLG ELV AQIAICGMSTWSKRSL--	----	SQEDAPQTTPRPVAEIVPSFINKDTETIIIMLEF
h-RLX2	MPRLFFFHLLGVCLLLNQPSRAVA	--DSWMEEVIKLG ELV AQIAICGMSTWSKRSL--	----	SQEDAPQTTPRPVAEIVPSFINKDTETINMSEF
h-RLX3	MARYMLLLLAVWVLTGELMPGAEA	--RAAPYGVRLIG EFI AVIFTGGGRWRRSDIL--	----	AHEAMGDTFPDADADED-----
h-RLF	MDPRLFAWALVLLGPALVFALGPA	--PTPEMREKLGHHFV ALV VGGGPRWSTEARRPAAGD--	----	RELLQWLERRHLLHGL-----
		C-domain		
		-IANLPPELKAALSERQPSL-PELQQYVPALKDSNLSFEEFKKLIRNRQSEAADSNPSELKYLGLDTHSQKKR--		-RPYVALFEKICLLIGCTKRSLAKYC
		-VANLPQELKLTLSMQPAL-PQLQQHVPVLKDSLLFEEFKKLIRNRQSEAADSSPSELKYLGLDTHSRKKR--		-QLYSALANKOCHVGCTKRSLARFC
		-----SLAGELDEAMG-----SSENLALTGPSQAFYRG-----RPSWQGTGVL--RQSR--		DVLAGLSSSCKWGSKSEISSLC
		-VADSN---LTL---GPGLOPLPQ-----		-----TSHHHRHNR--
				AAATNPARYCCLSGTQQDLLTLPY



Ossitocina



Ossitocina

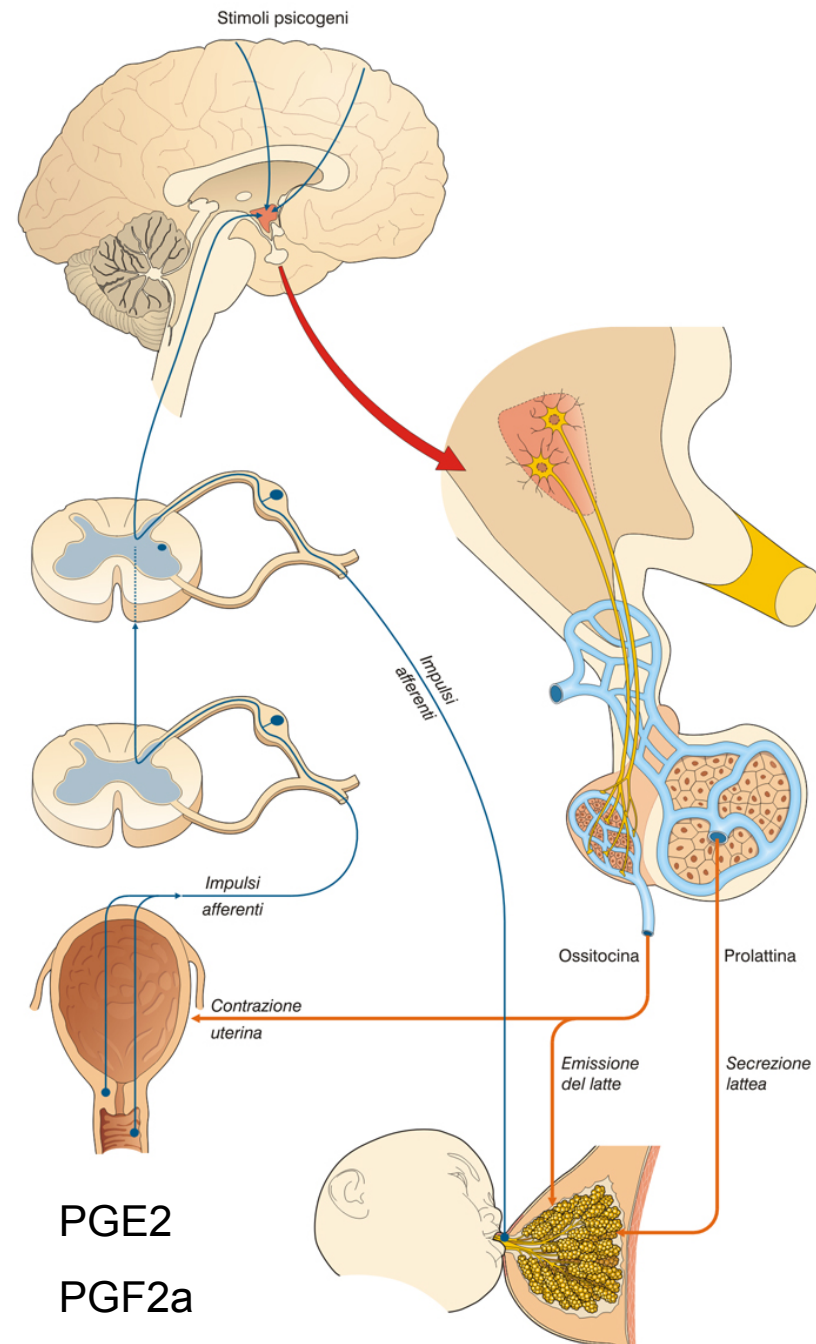
Chr 20

Ipotalamo NPV NSO
magnocellulari

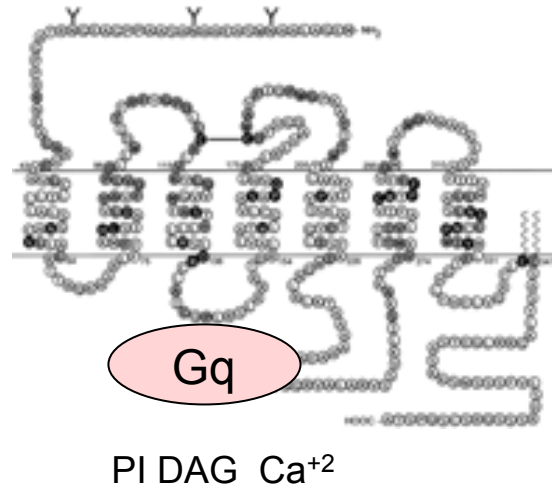
Aree SNC ippocampo

Gonadi follicoli e corpo
luteo, testicoli

Placenta e endometrio



Recettore dell'ossitocina



Utero endometrio miometrio

*muscolatura liscia ghiand mamm
decidua Follicolo --> contrazione*

*Leydig epididimo prostata -->
eiaculazione*

SNC --> comportamento

Rene --> natriuretico

*Cardiocircolatorio --> ipotensivo +
ANP*

Ghiandole endocrine

Sistema immunitario

Recettore promiscuo anche Gi
Cross reattività con AVP

Effetti ossitocina centrali

Stimola attività motoria

Controllo cardiocircolatorio e osmoregolazione

Aumento desiderio sessuale--> lordosi

Secrezione orgasmo-->Contrazione utero e eiaculazione

Comportamento materno

Comportamento sociale, affettivo, difesa reciproca, fiducia, antiaggressività, monogamia (+VT1).

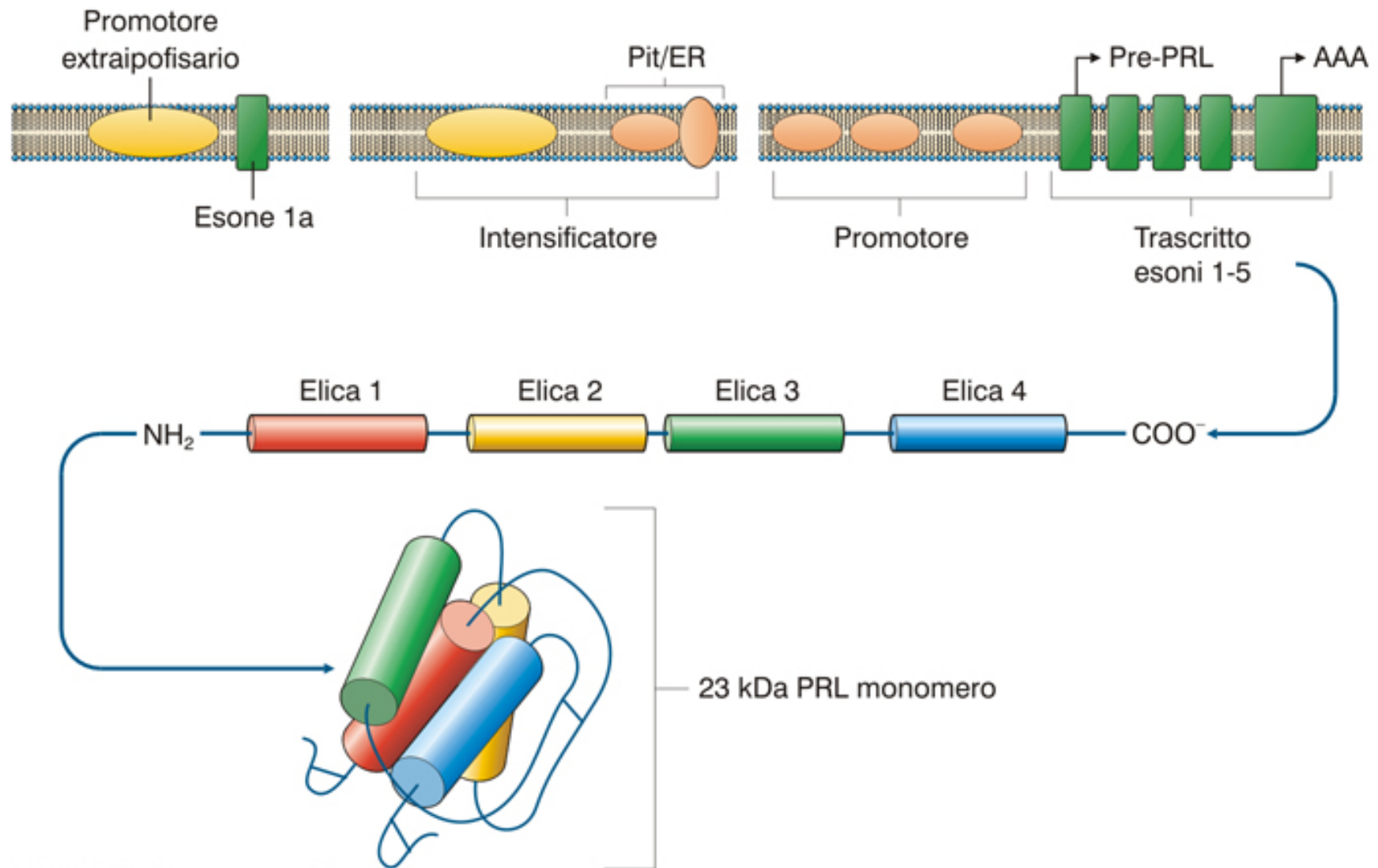
Antistressogeno antiansiogeno analgesico

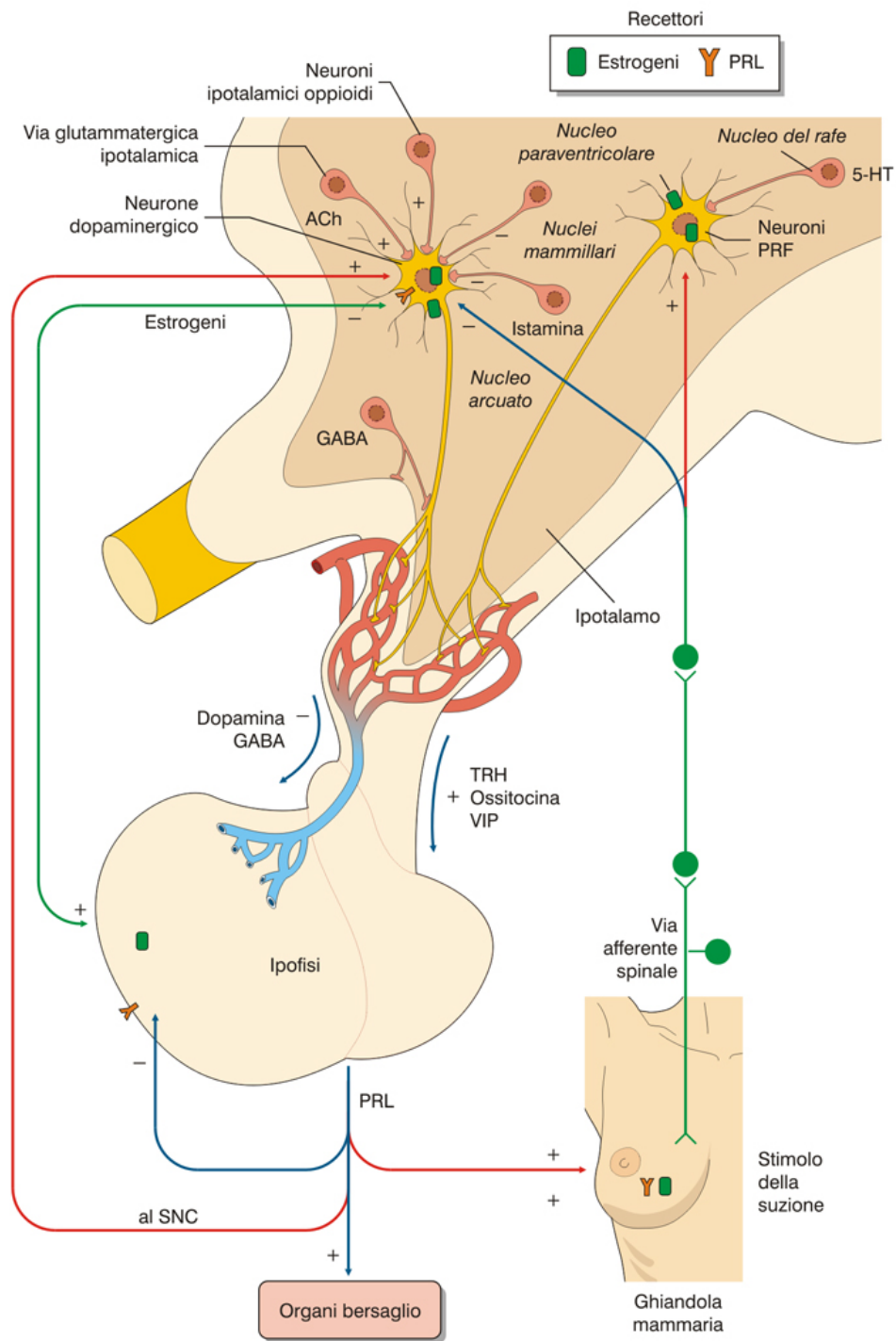
Neuroormone leggermente anoressizzante

OT e AVP memoria, memoria sociale/affettiva

Patologia--> dipendenze, depressione, schizofrenia, mania ossessiva-compulsiva, autismo, aggressività

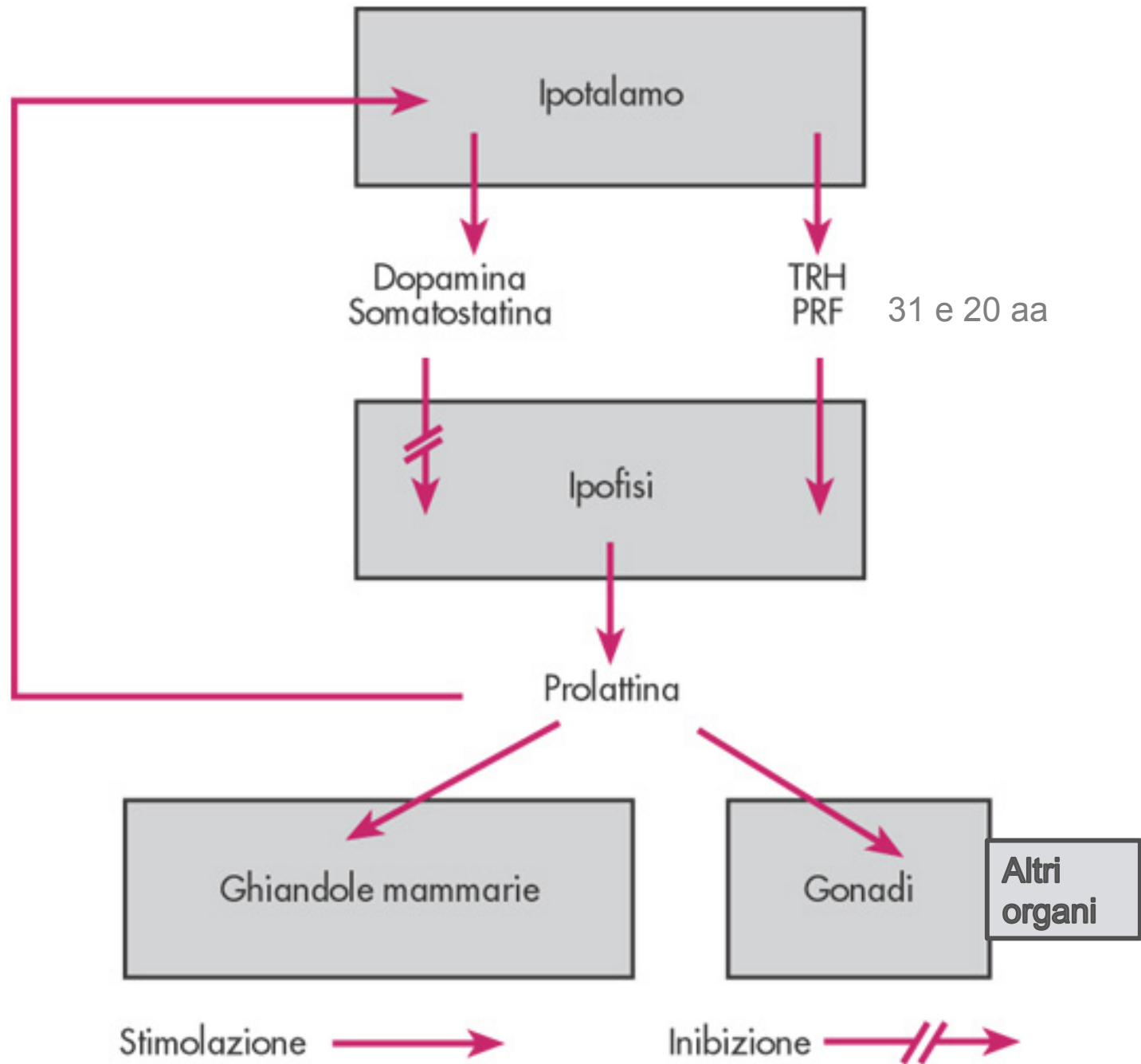
Prolattina (Chr 6)





Prolattina asse

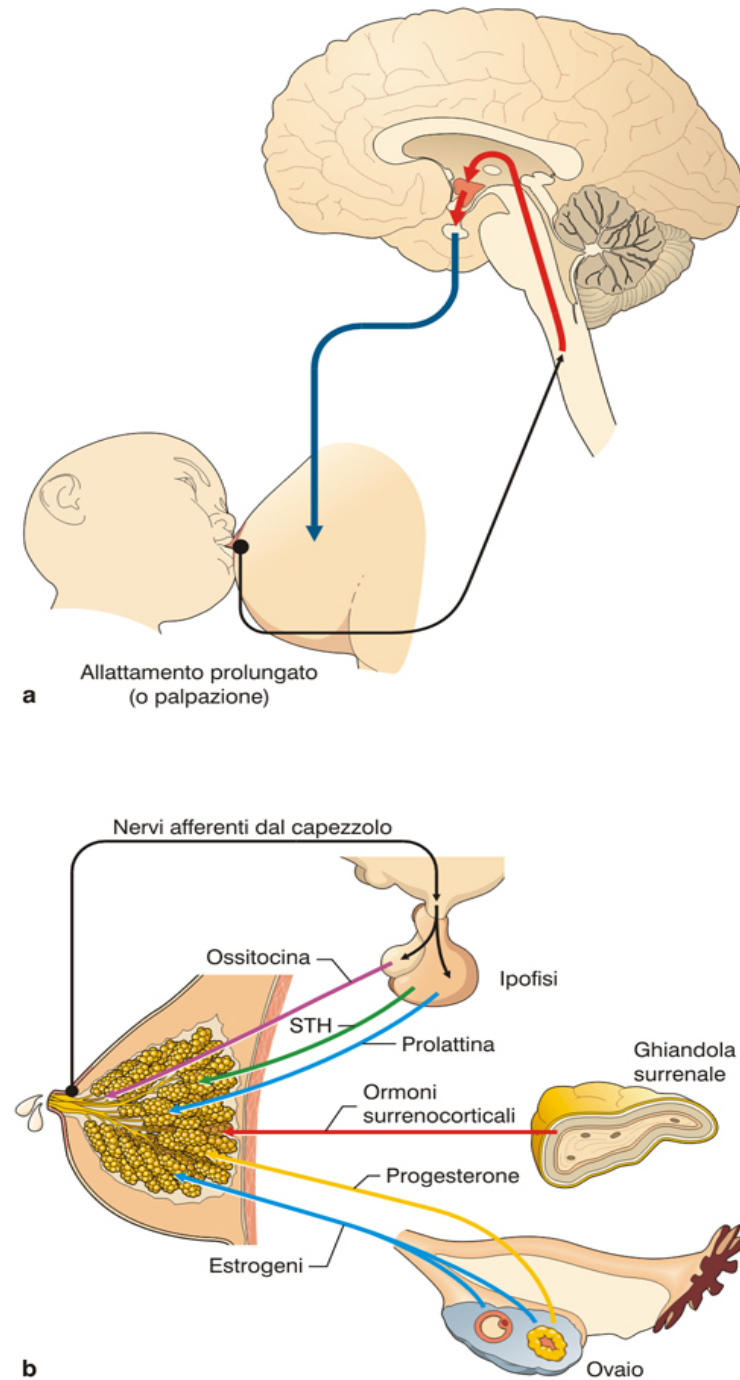
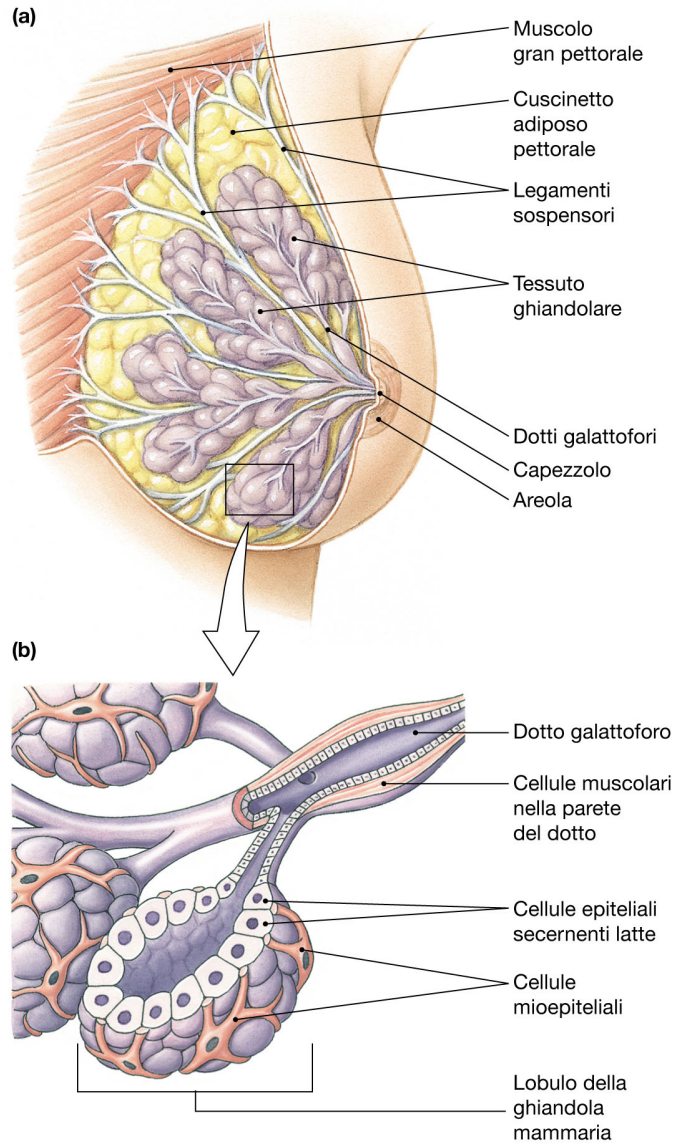
(Chr 6)



■ **TABELLA 48.5** Regolazione della secrezione di prolattina. ipofisaria

Stimolazione	Inibizione
Gravidanza	Dopamina
Estrogeni	Agonisti dopaminergici
Allattamento (manipolazioni del capezzolo)	Somatostatina
Sonno	
Stress (tabella 48.3)	Prolattina
TRH	Peptide associato al GnRH
Oppioidi	Ac. γ -amminobutirrico
Serotonina	
Antagonisti dopaminergici	
Antagonisti istaminici (H_2)	
Antagonisti adrenergici	
Probabili fattori di rilascio della prolattina	
Polipeptide intestinale vasoattivo	
Peptide istidina-leucina	
Ossitocina	
Angiotensina-2	
Neurotensina	
Galanina	
Neurofisina-2	
Prodotti del lobo intermedio	

Lattogenesi



Sources of Extrapituitary Prolactin

Tissue/cell type

Fluid Compartment

Brain/neuron

Pituitary/lactotroph

Lacrimal gland/epithelium

Thymus/thymocyte

Lymph nodes/lymphocyte

Sweat gland/epithelium

Breast/epithelium

Spleen/lymphocyte

Skin/fibroblast

Myometrium/myocyte

Decidua/stromal cell

Bone marrow/lymphoid cell

CSF

tears

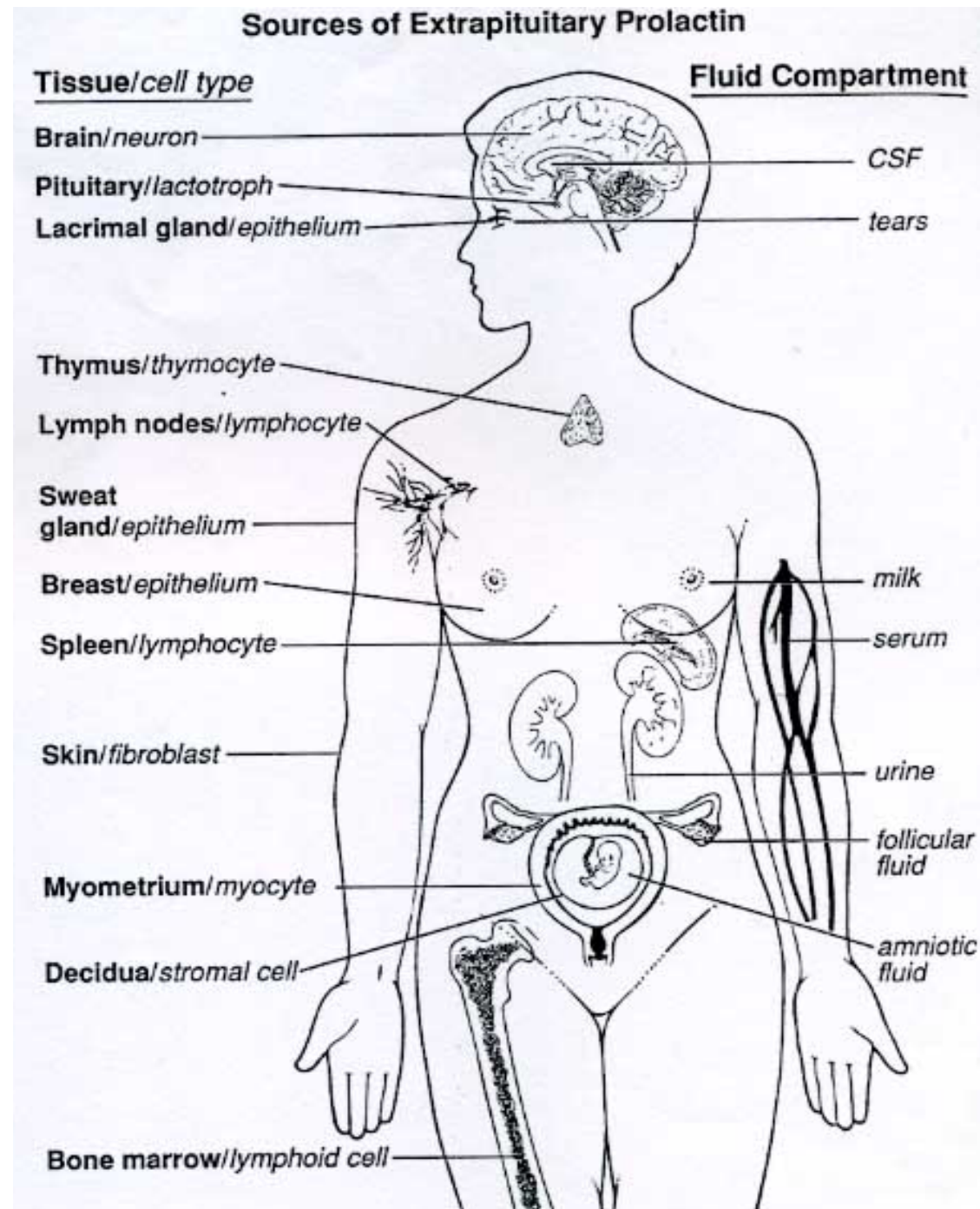
milk

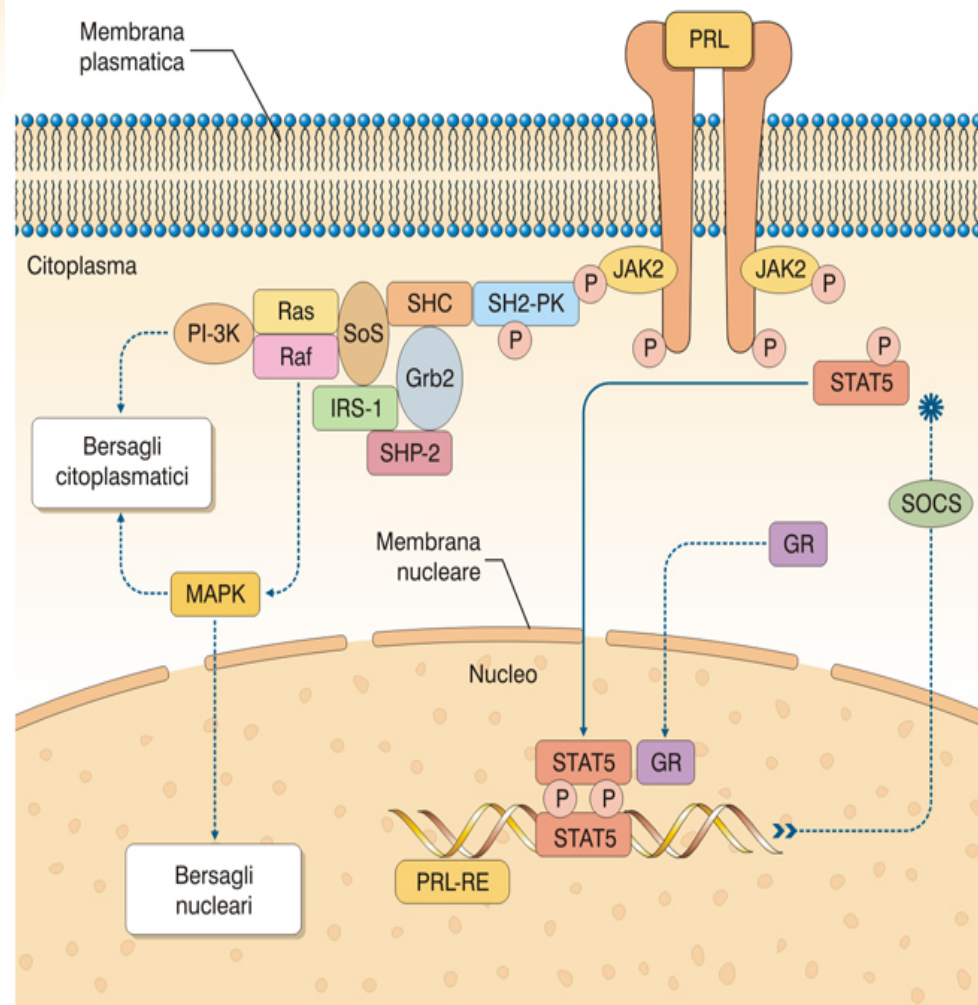
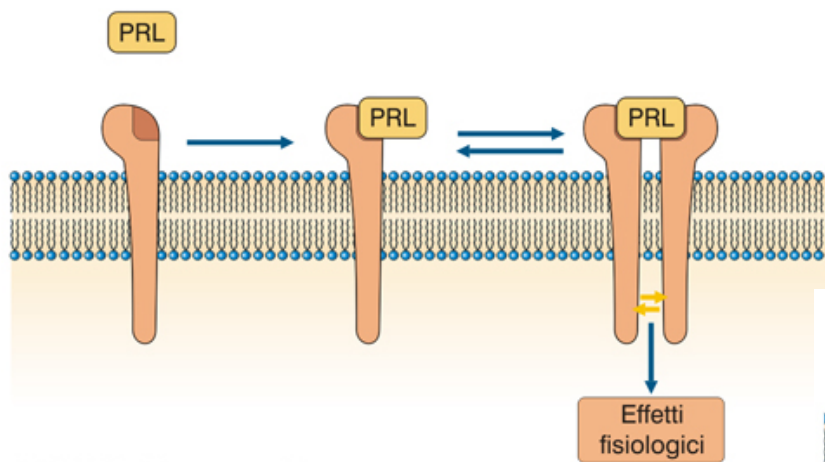
serum

urine

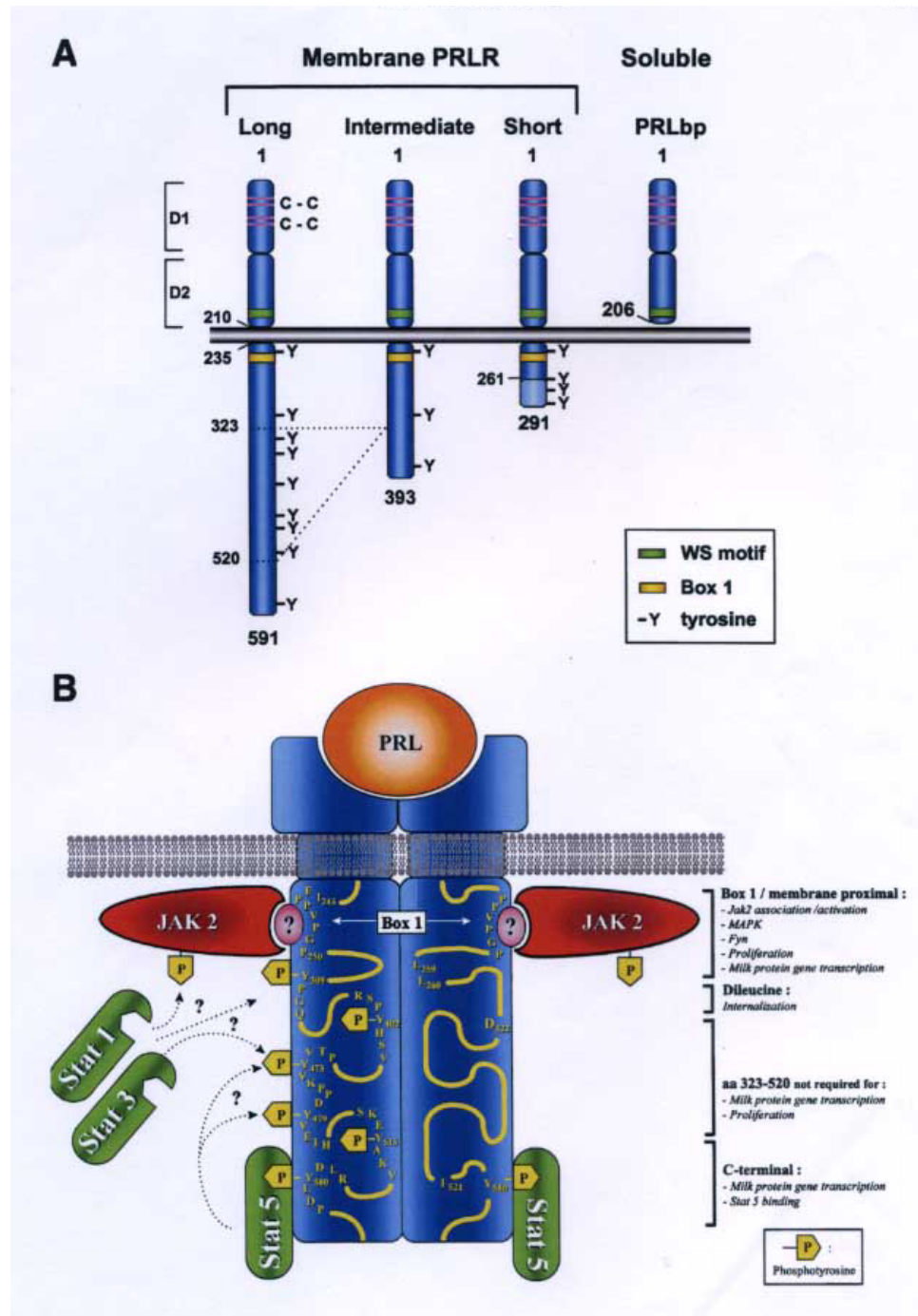
follicular fluid

amniotic fluid





Recettore prolattina



Tessuti leganti la prolattina

Comportamento materno cure parentali

Iperfagia

Adattamento alle risposte stressogene

Reazione psicosomatica

pseudogravidanza

Diminuzione della libido

Allungamento fase REM

Cell or tissue	Cell or tissue
Central nervous system	Kidney
Brain	Cortex
Cortex	Bladder (fish, reptiles, amphibians)
Hippocampus	Lymphoid tissue
Choroid plexus	Spleen
Striatum	Thymus
Cochlear duct	Nurse cells
Corpus callosum	Epithelial cells
Hypothalamus	Lymphocytes
Astrocytes	T
Glial cells	B
Retina	Macrophages
Olfactory system	Ganglia
Ganglia	Intestinal cells
Pituitary	Reproductive system
Anterior lobe	Female
Intermediate lobe	Ovary
Adrenal cortex	Ova
Skin	Granulosa cells
Epidermis	Thecal cells
Hair follicle	Corpus luteum (luteal cells)
Sweat gland	Oviduct
Bone tissue	Mammary gland
Chondrocytes	Epithelial cells
Cartilage	Milk
Osteoblasts	Tumors
Gills (fish and larval amphibians)	Crop sac (birds)
Lung	Uterus (endometrium)
Heart	Placenta
Cardiac muscle	Amnion
Atria	Male
Skeletal muscle	Testis
Adipocytes (birds)	Germ cells
Brown adipose tissue	Spermatozoa
Liver	Leydig cells
Hepatocytes	Sertoli cells
Kupffer cells	Epididymis
Submandibular gland	Seminal vesicle
Submaxillary gland	Prostate
Pancreas	
Islet of Langerhans	
Gastrointestinal tract	
Esophagus	
Stomach	
Intestine	
Duodenum	
Jejunum	
Ileum	
Colon	