

# IMPATTO DEGLI ORMONI ESOGENI SUL CICLO OVARICO

DOTT. DAVIDE PASSONI - UNIVERSITÀ DEGLI STUDI DI MILANO

1.7.2024

CORSO SIGO YOUNG

Milano







## ORMONE

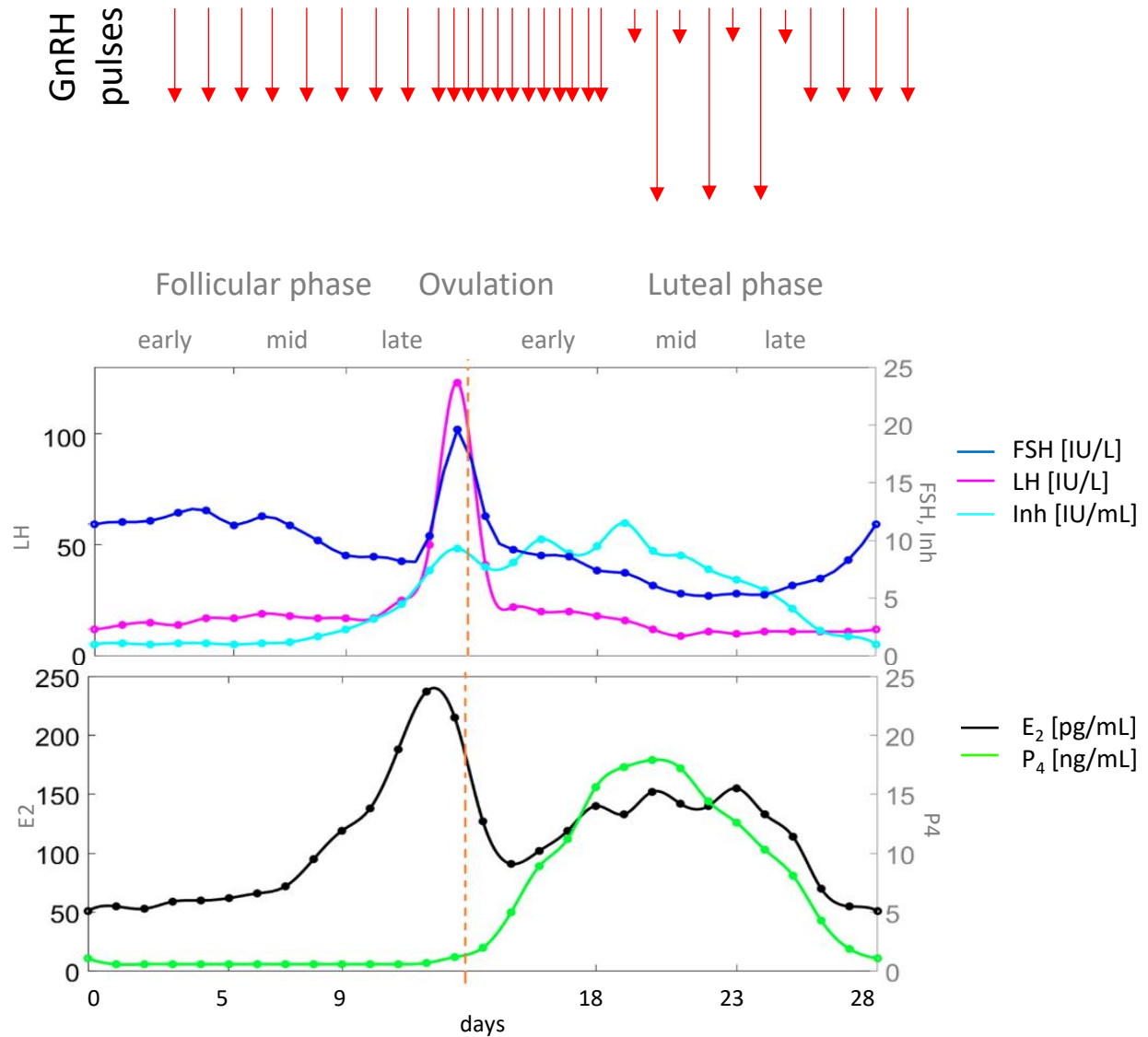
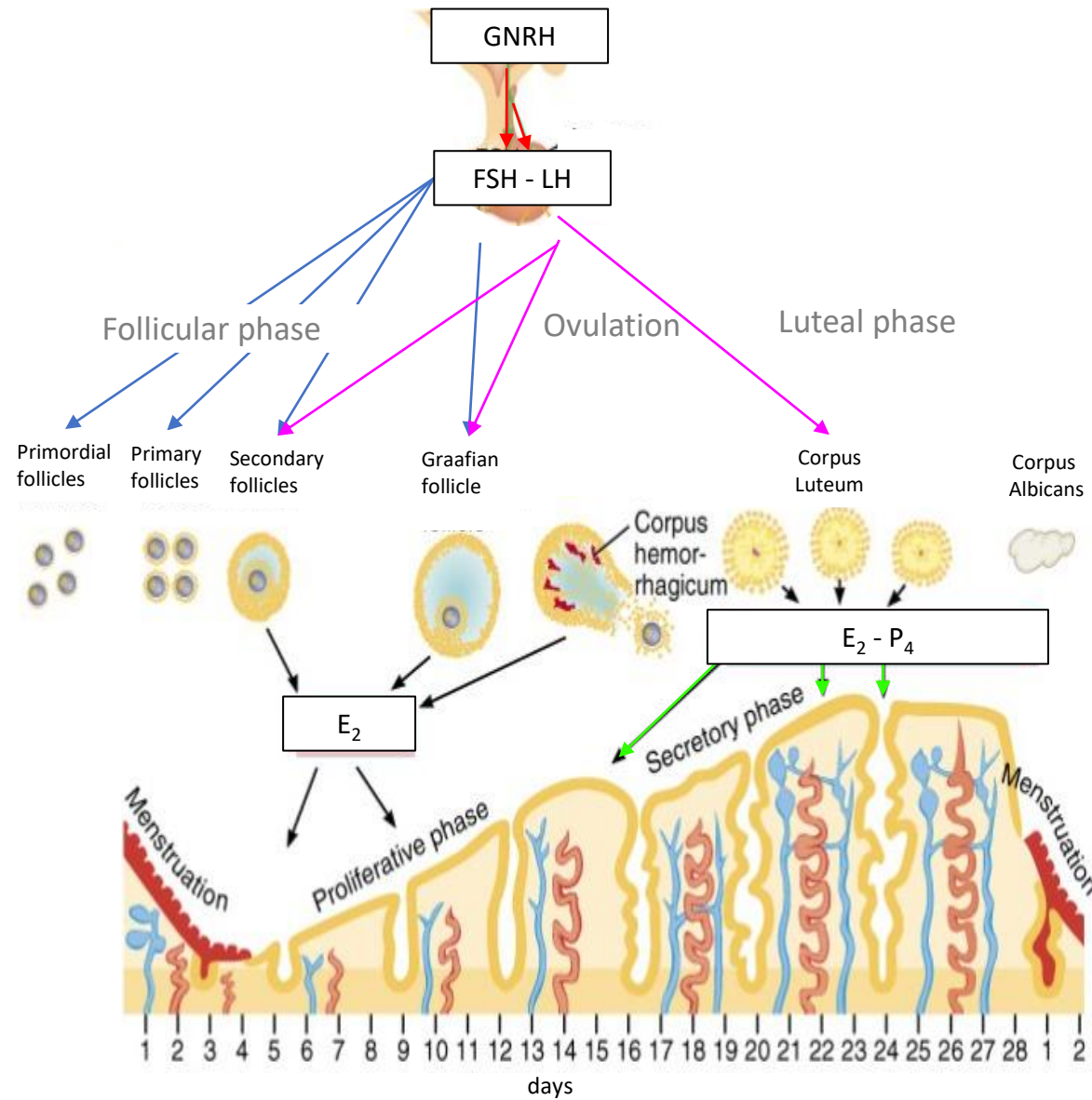
**Qualsiasi sostanza** [...] che una volta immessa nei liquidi circolatori e pervenuta nei vari distretti e tessuti del corpo è **capace di stimolare una o più funzioni o attività organiche** e di **regolare o almeno influenzare l'equilibrio di importanti fenomeni vitali**



## ESOGENO

[comp. di ἔξω e -γένος]

Che proviene o nasce **dal di fuori**





E-P



GONADOTROPINE e ANALOGHI GnRH



SERM e INIBITORI AROMATASI

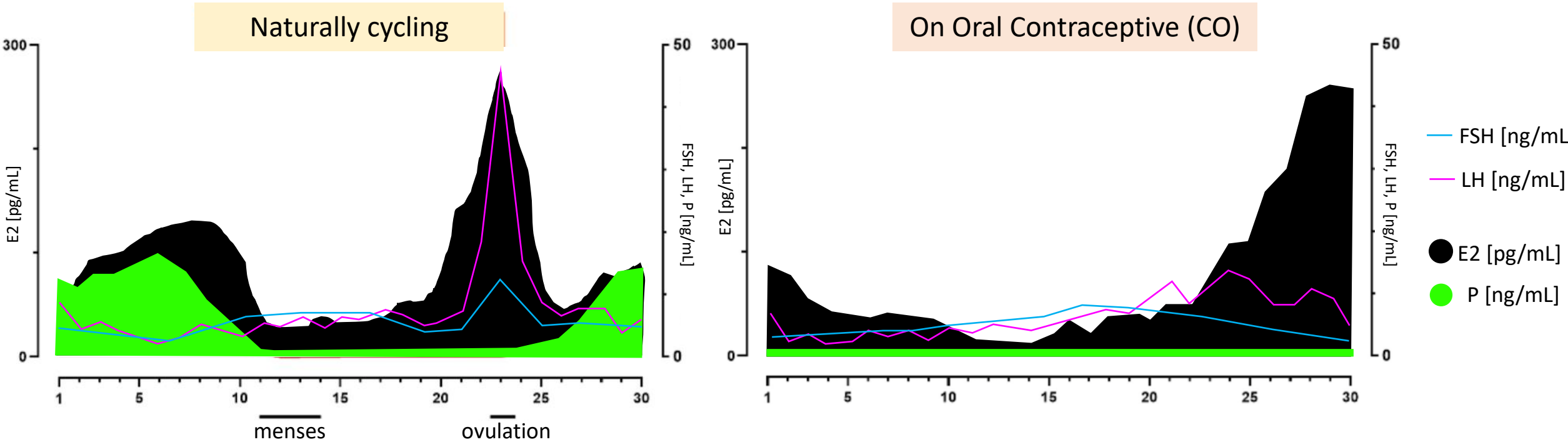




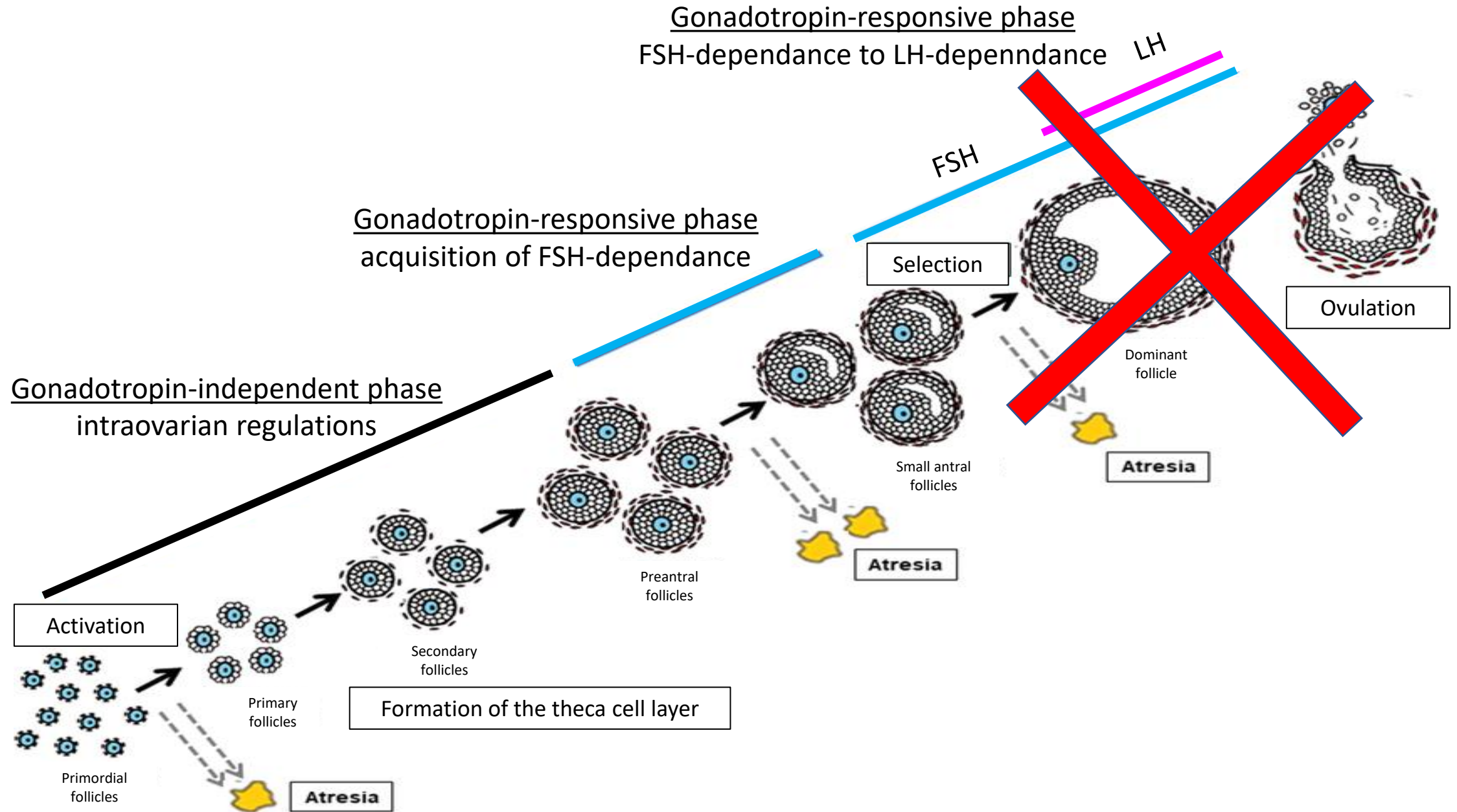


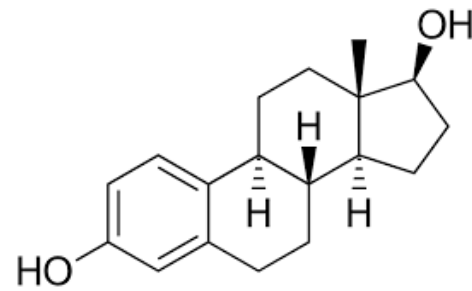
## E-P



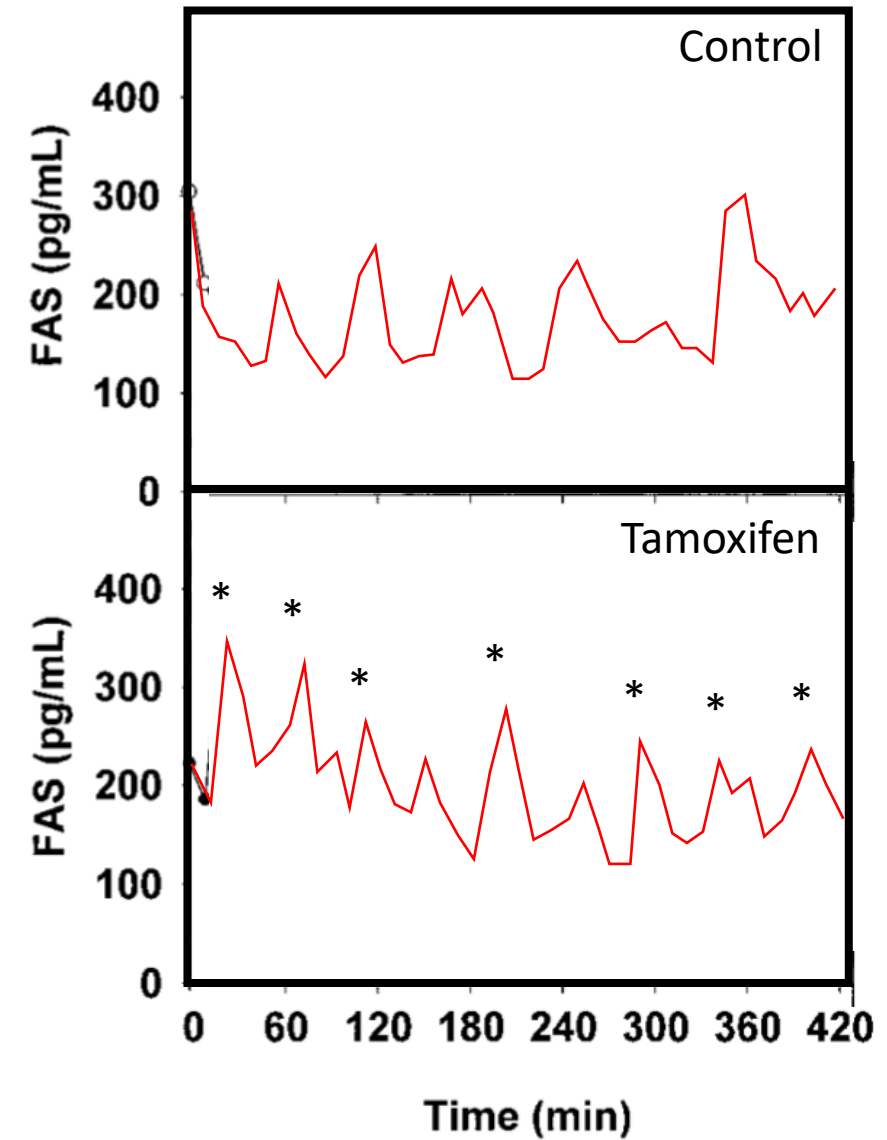
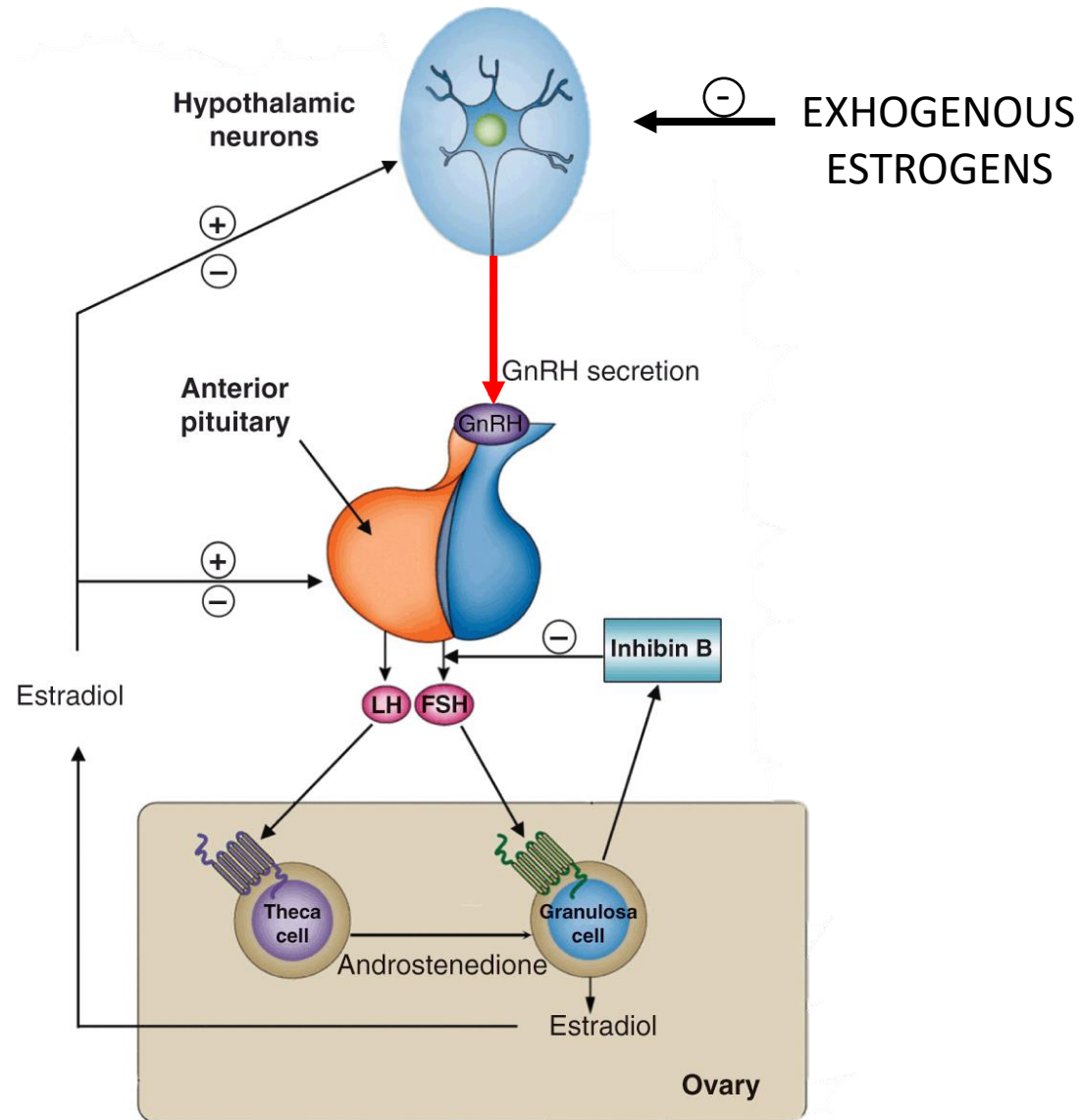


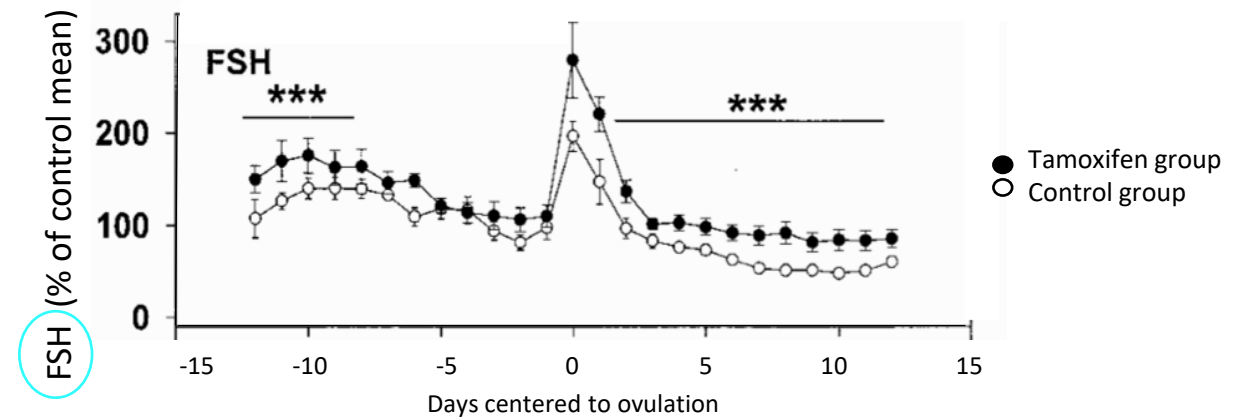
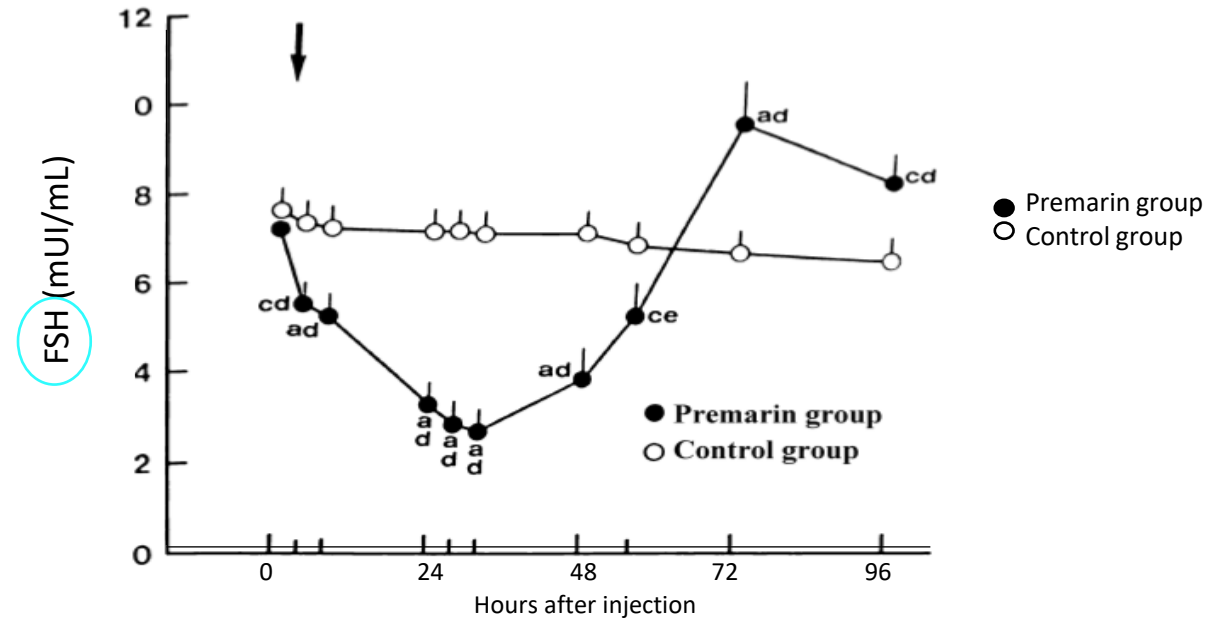
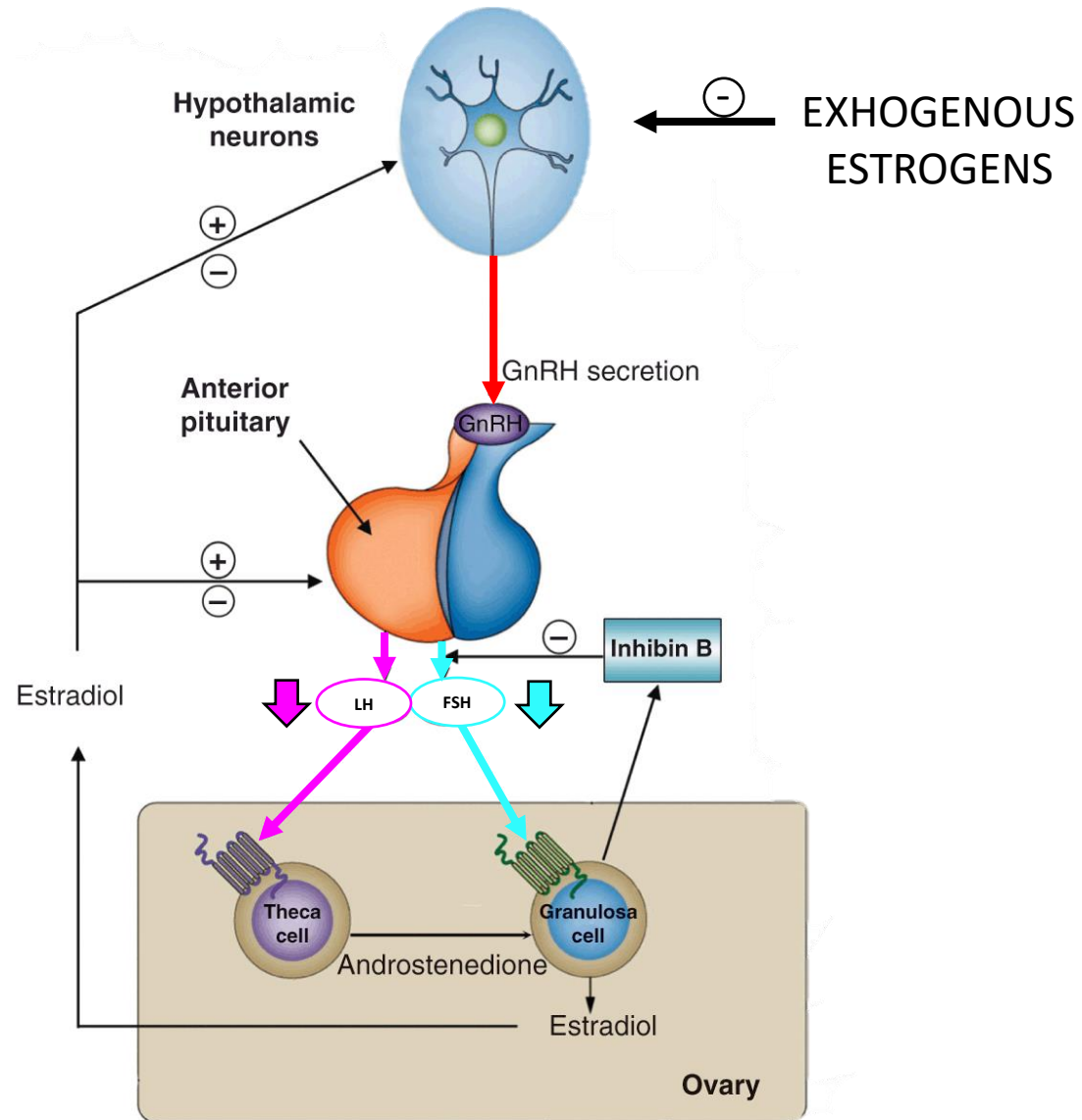
	Control group		COCp group		
Variable	Mean ± SD	Range	Mean ± SD	Range	P
FSH (IU/L)	6.59 ± 0.93	4.99–8.33	4.73 ± 3.86	0.44–15.39	0.015
LH (IU/L)	5.76 ± 2.52	1.43–11.29	3.46 ± 3.17	0.38–10.39	0.005

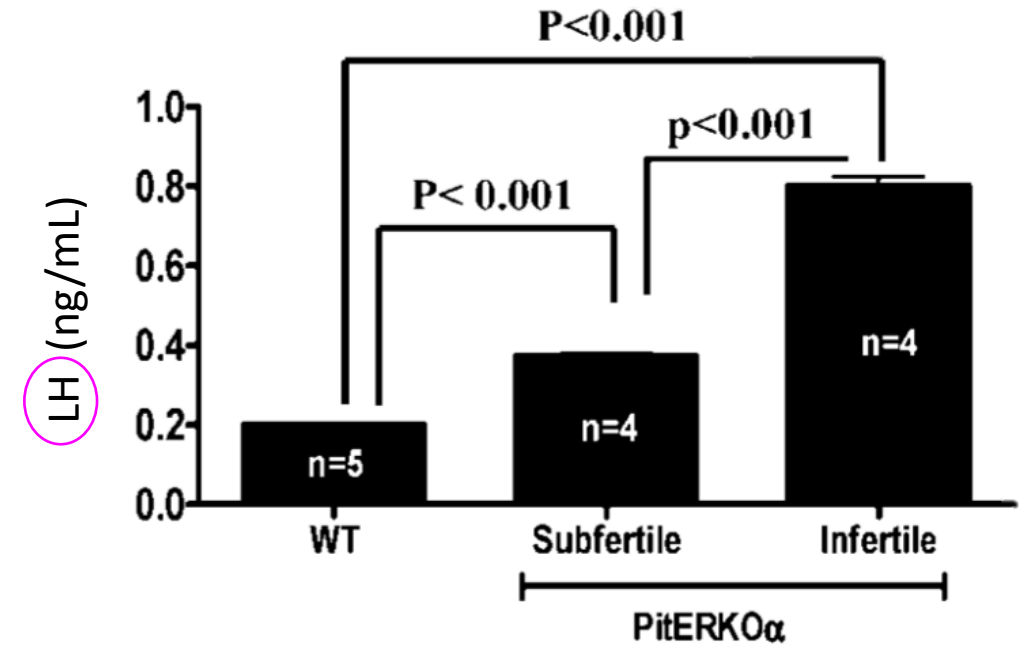
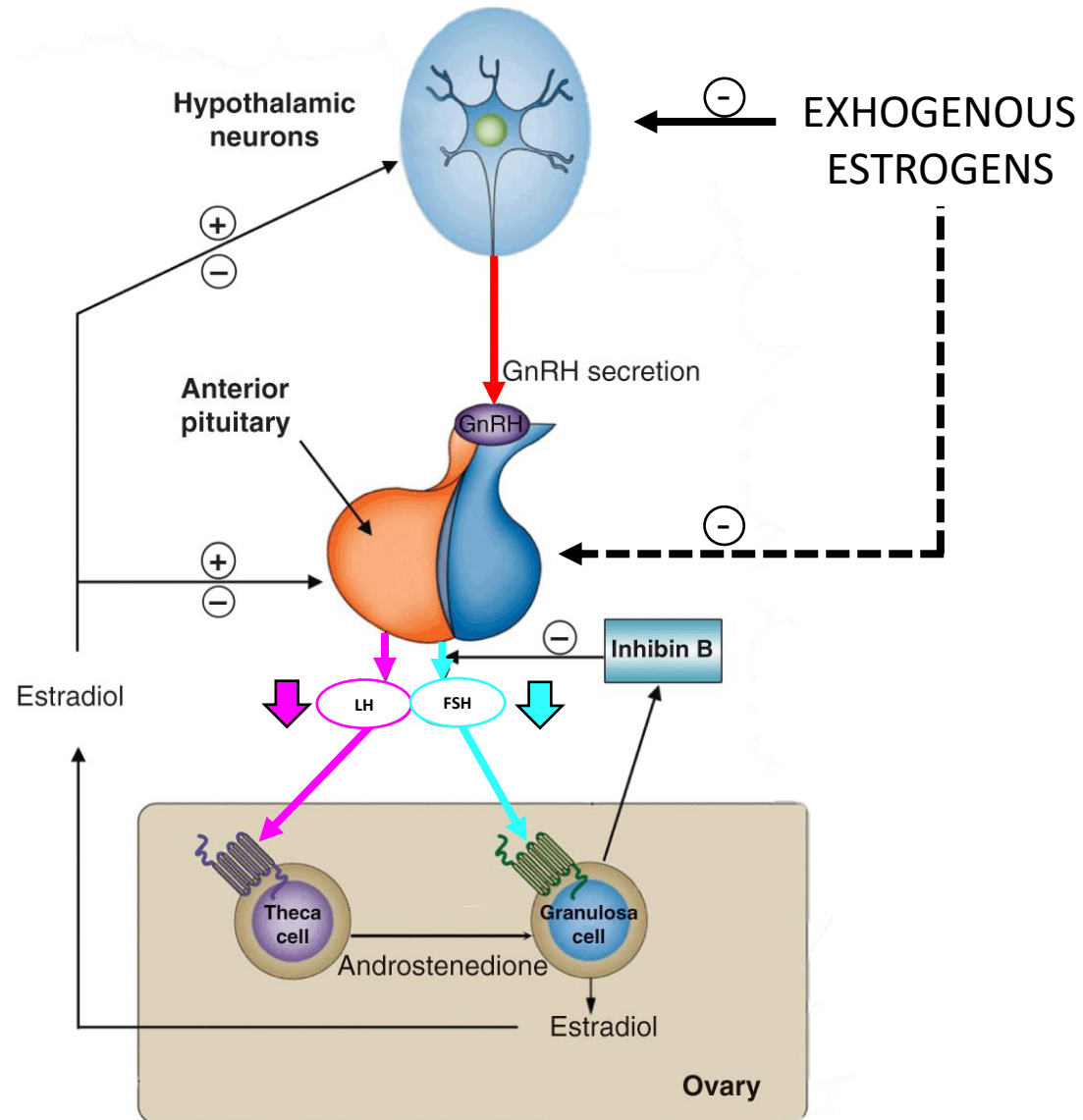


**ESTROGENI**

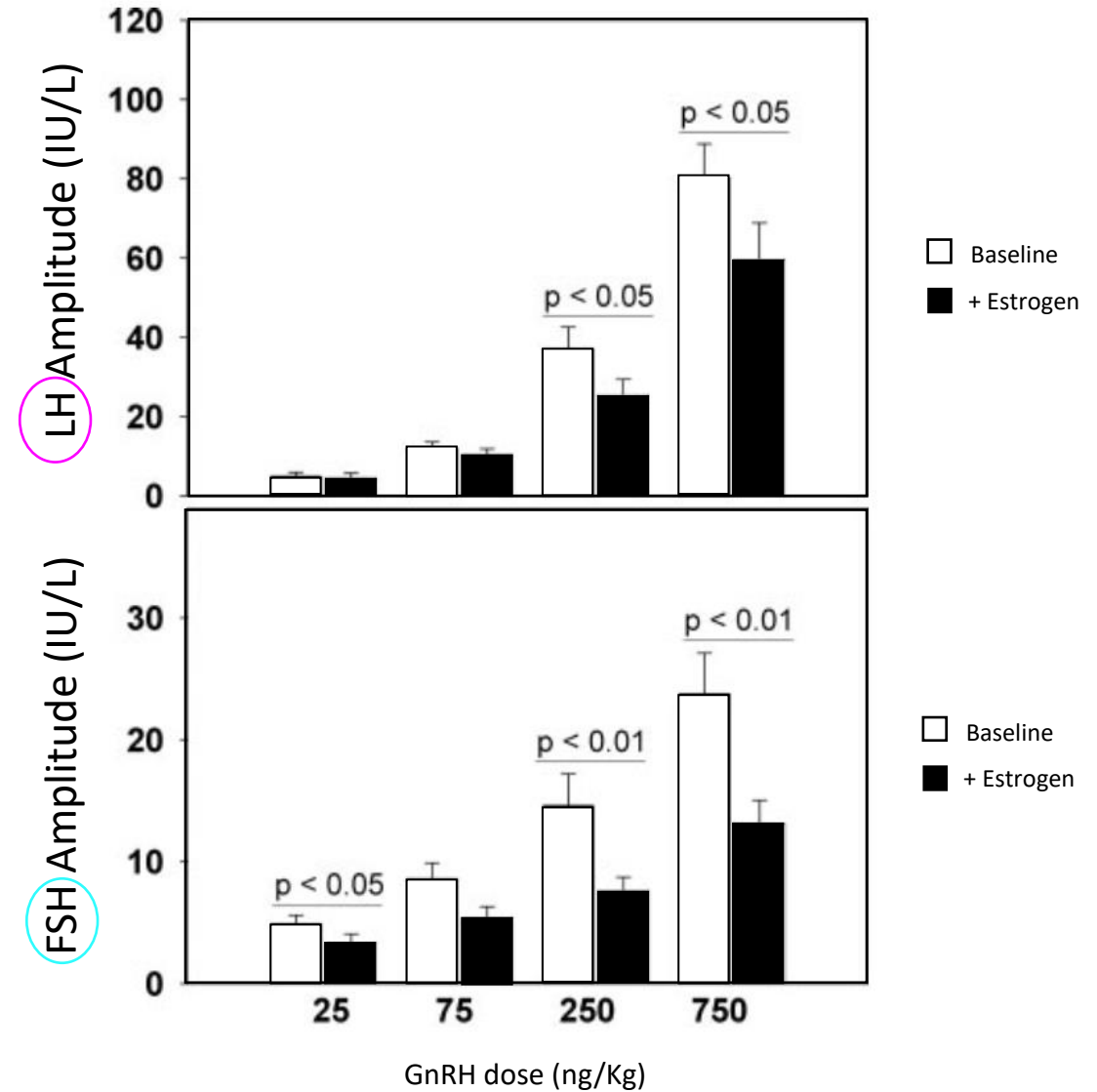
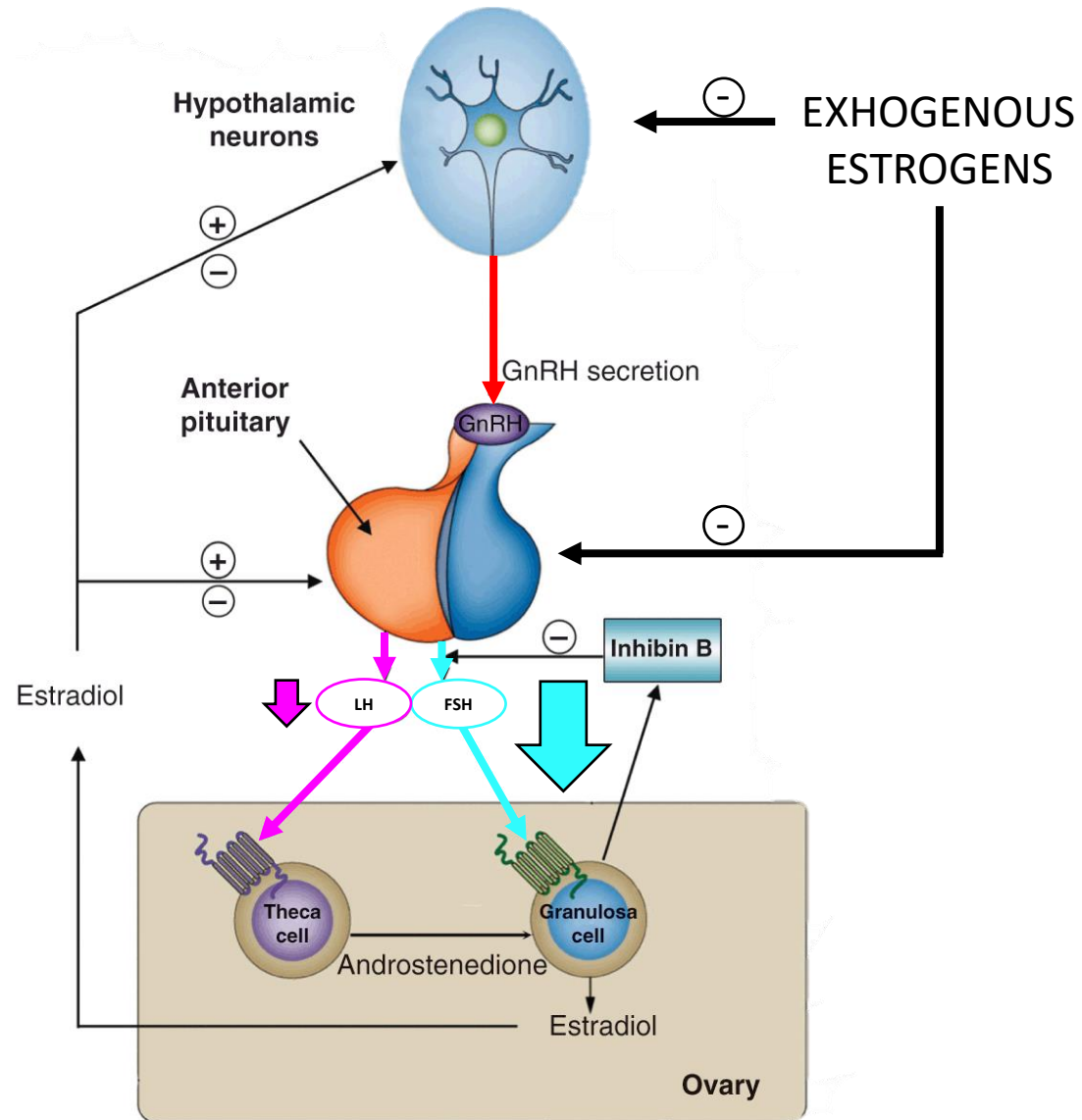


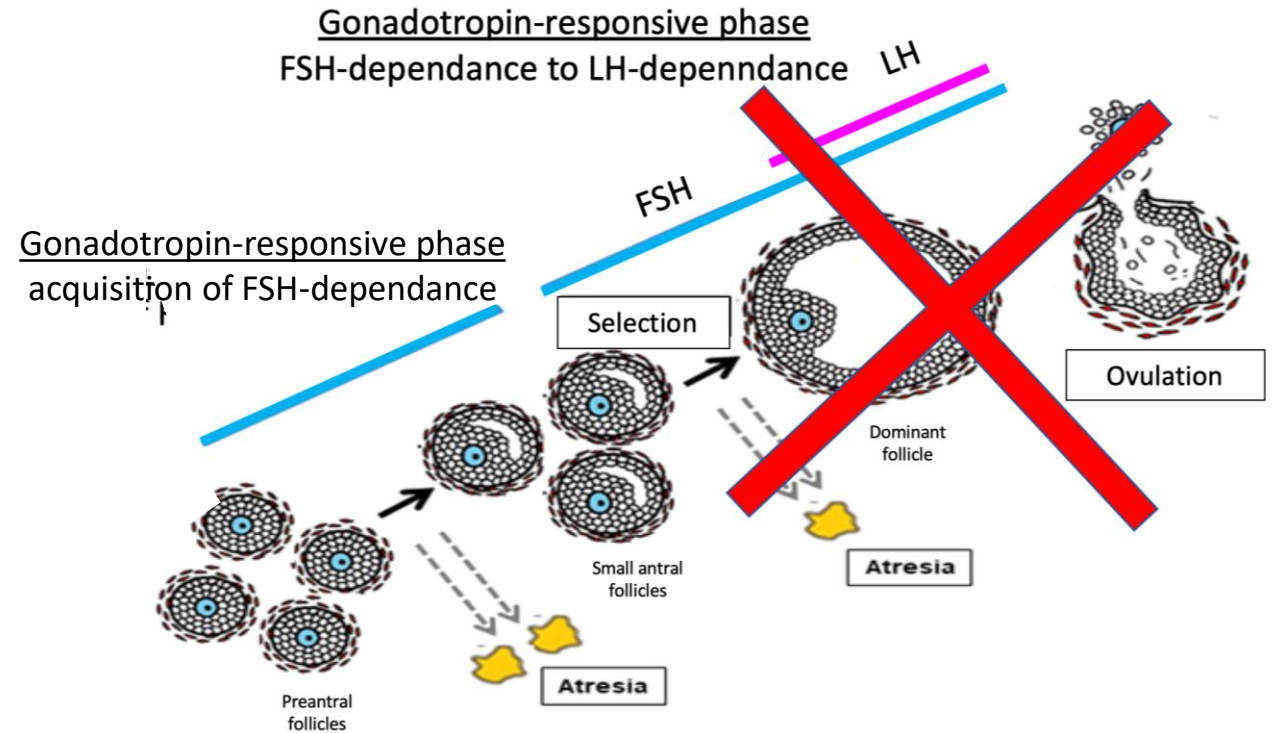
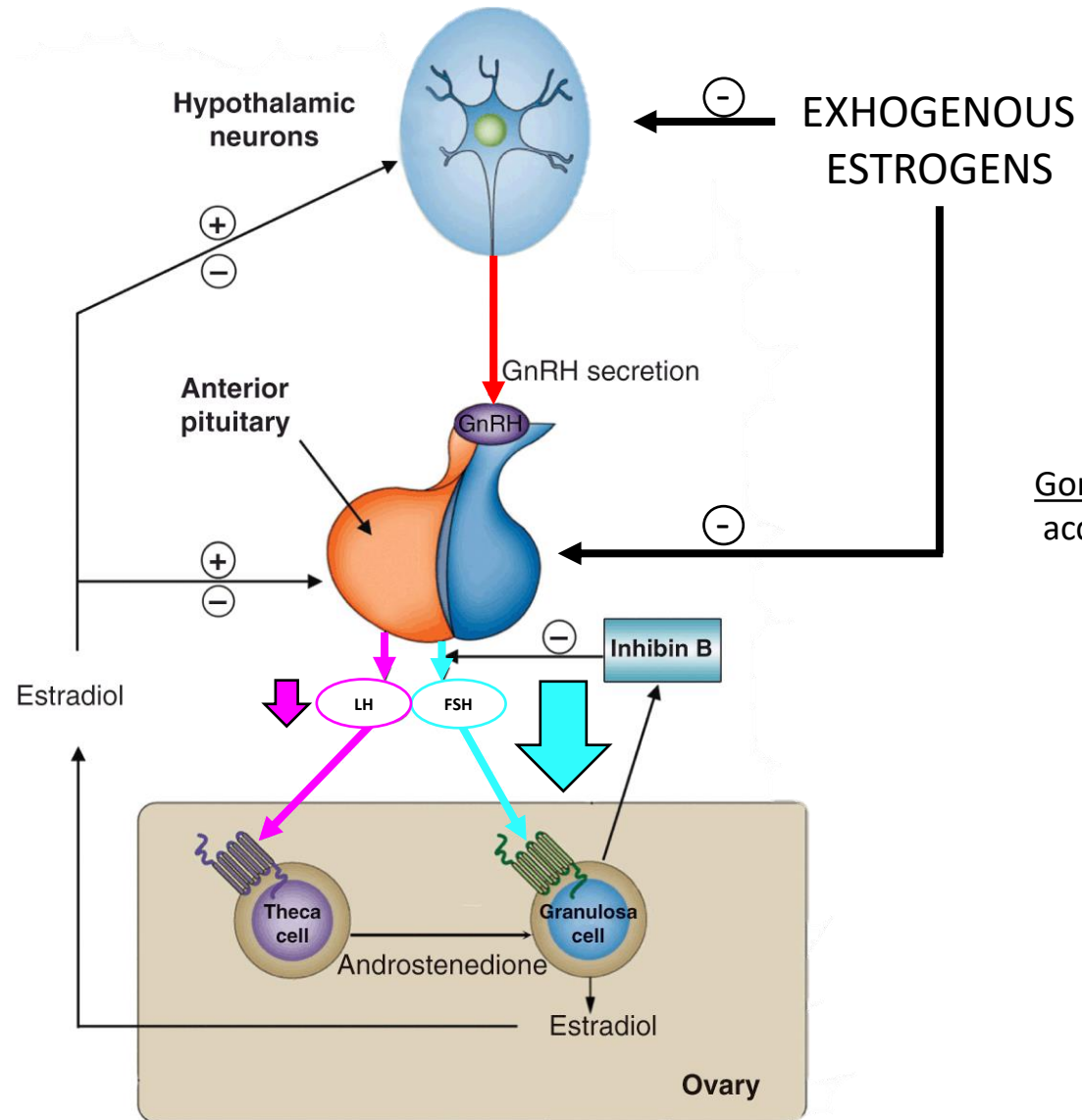


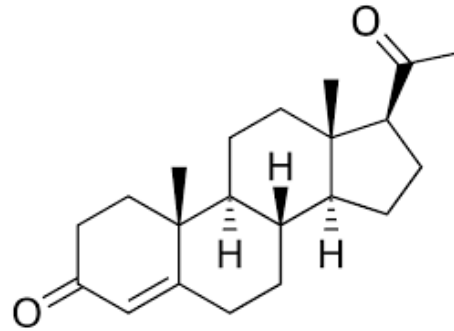






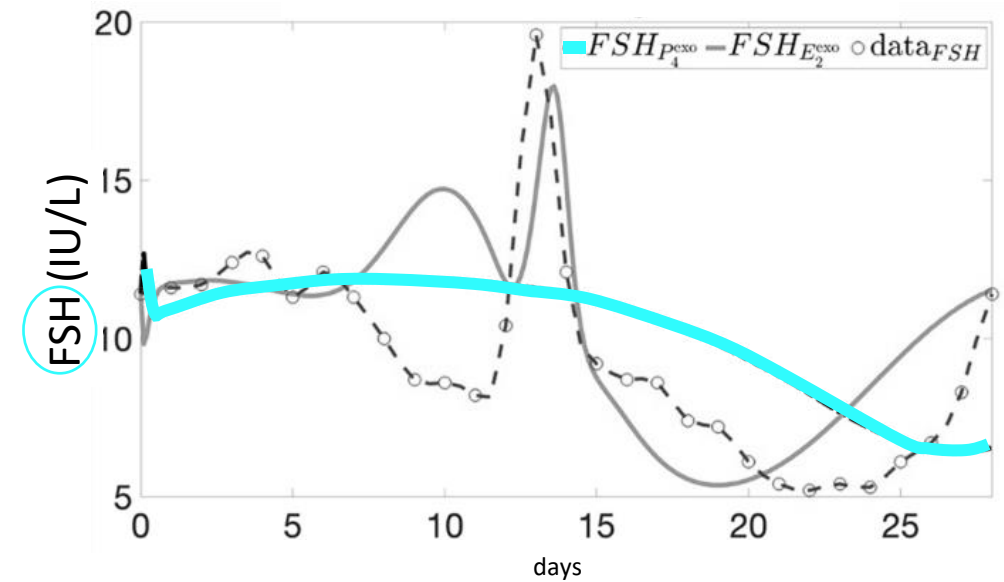
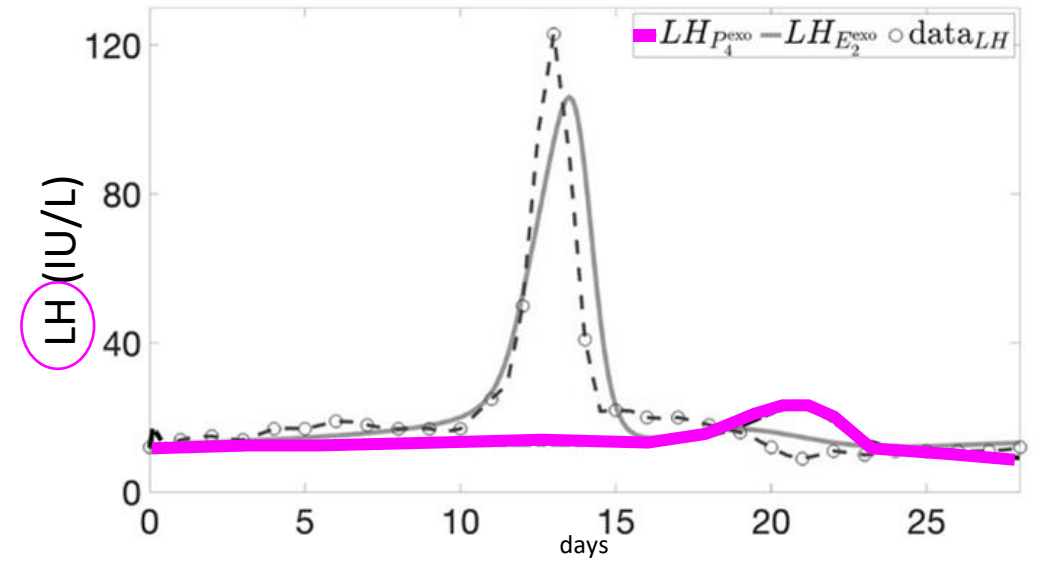
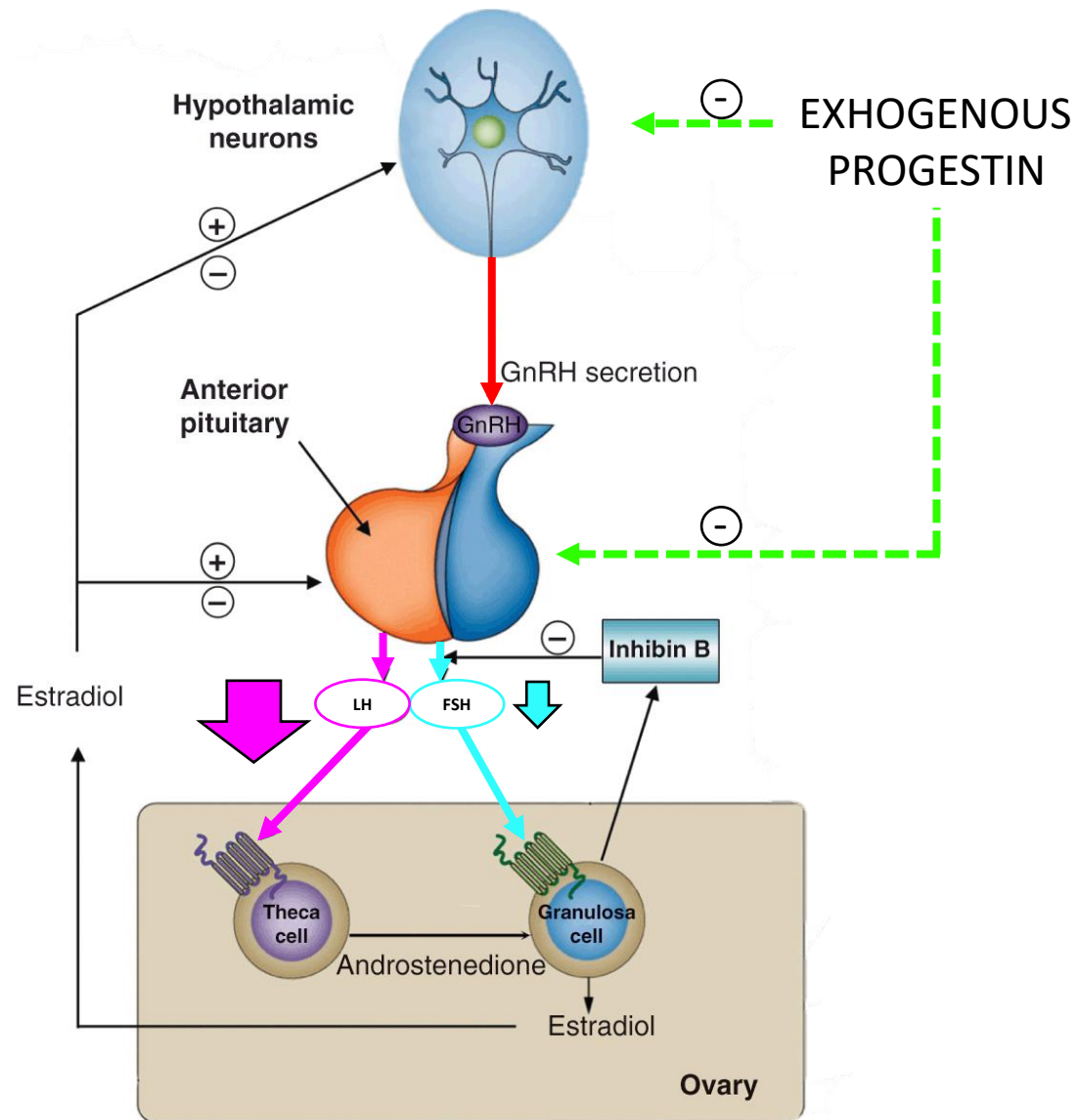


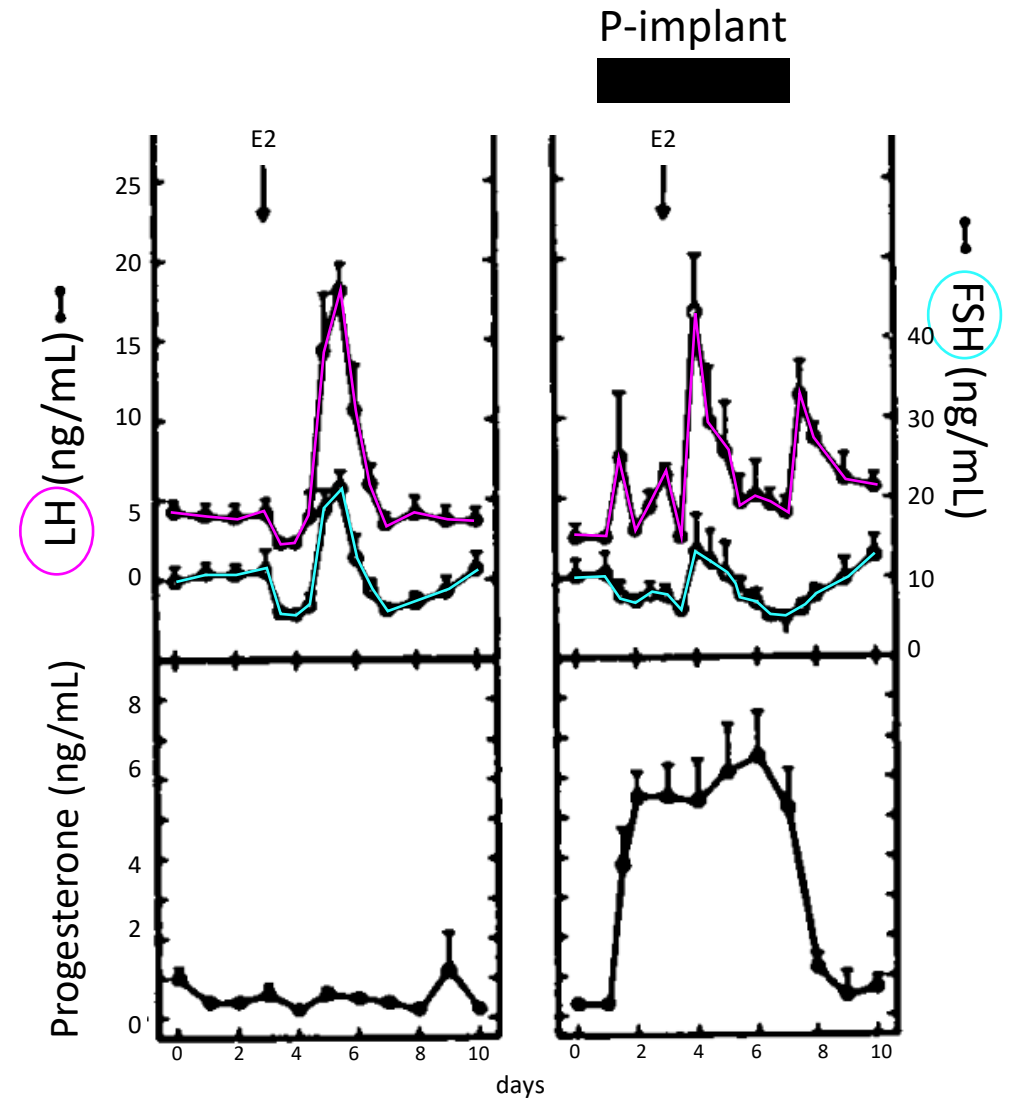
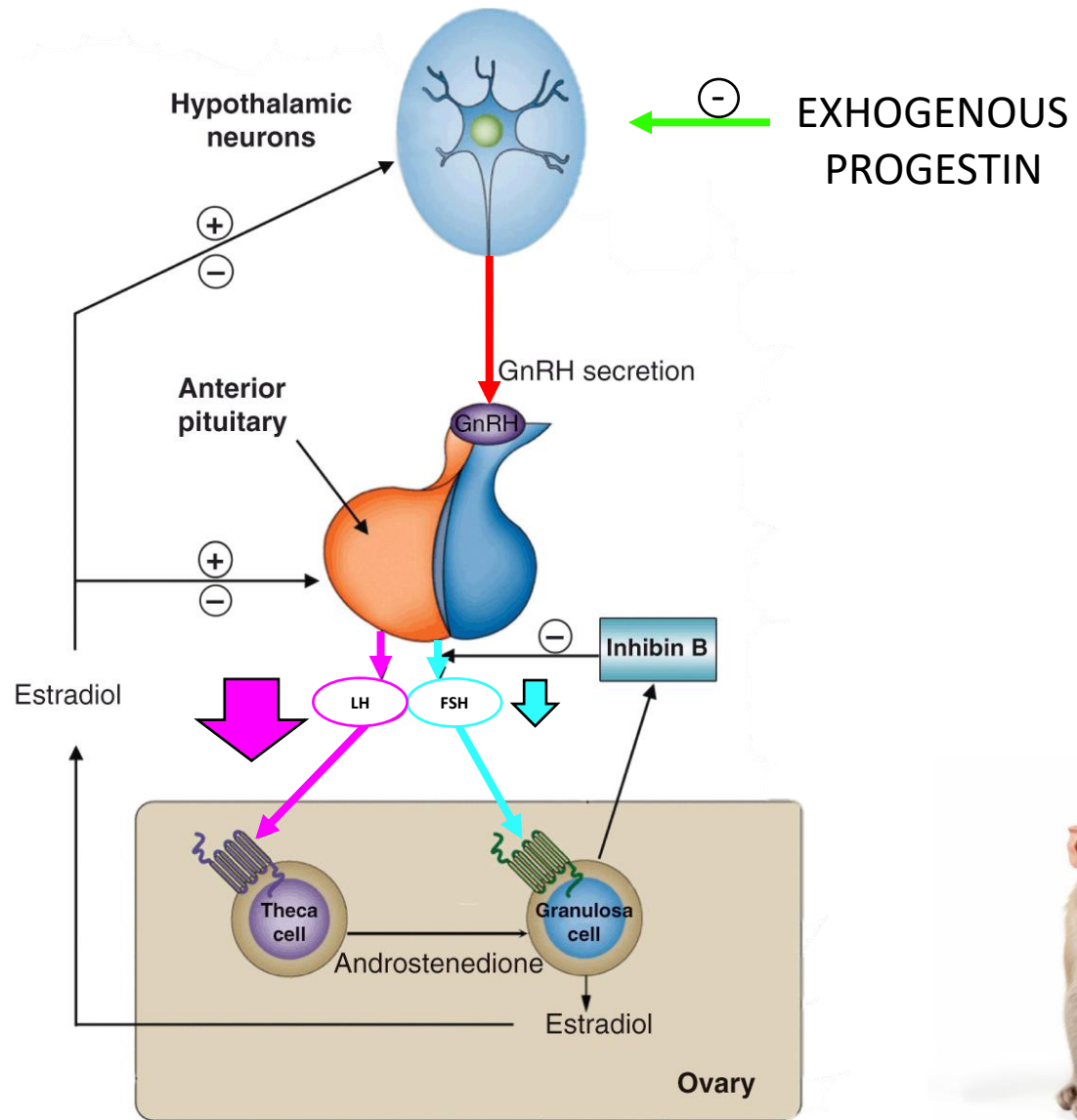


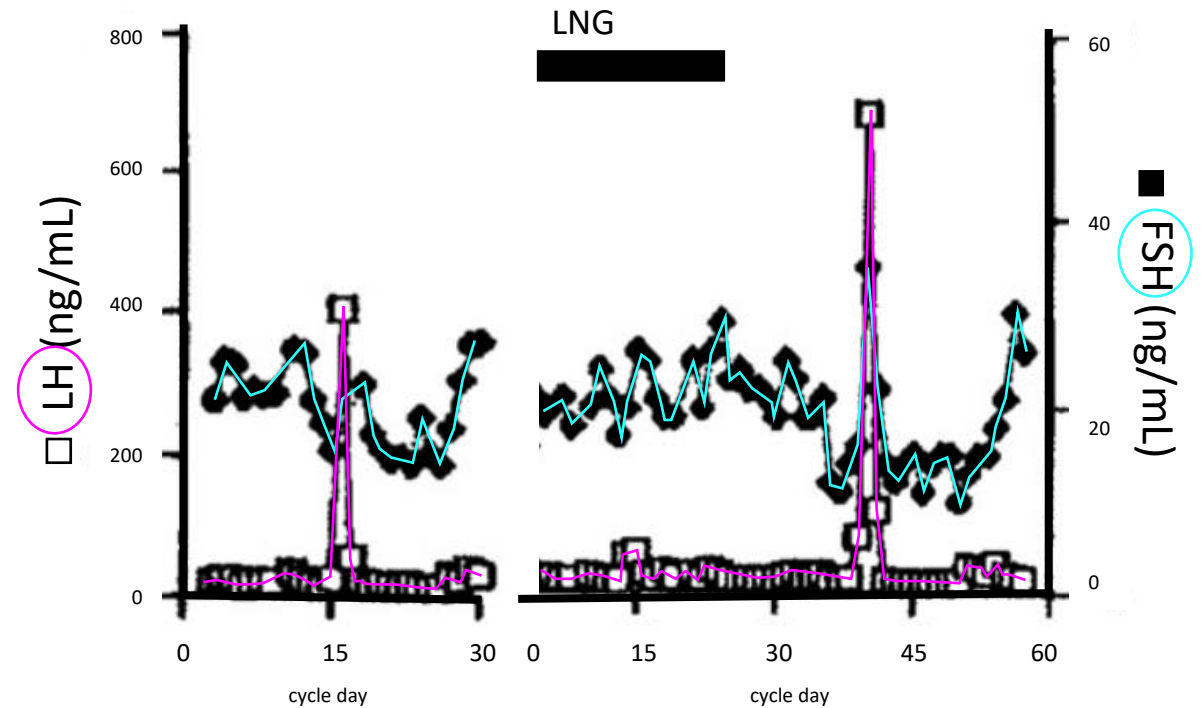
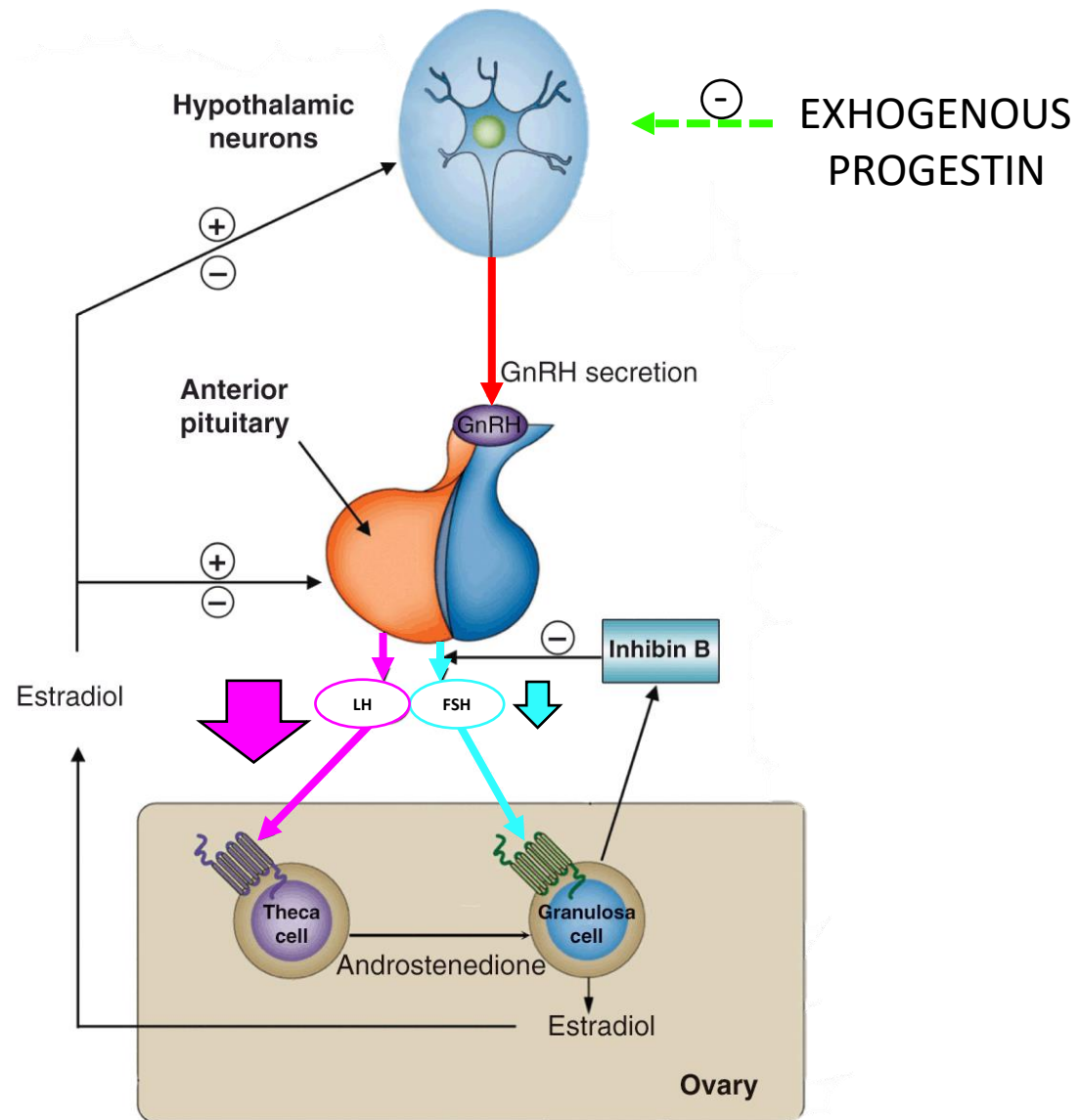


**PROGESTINICI**

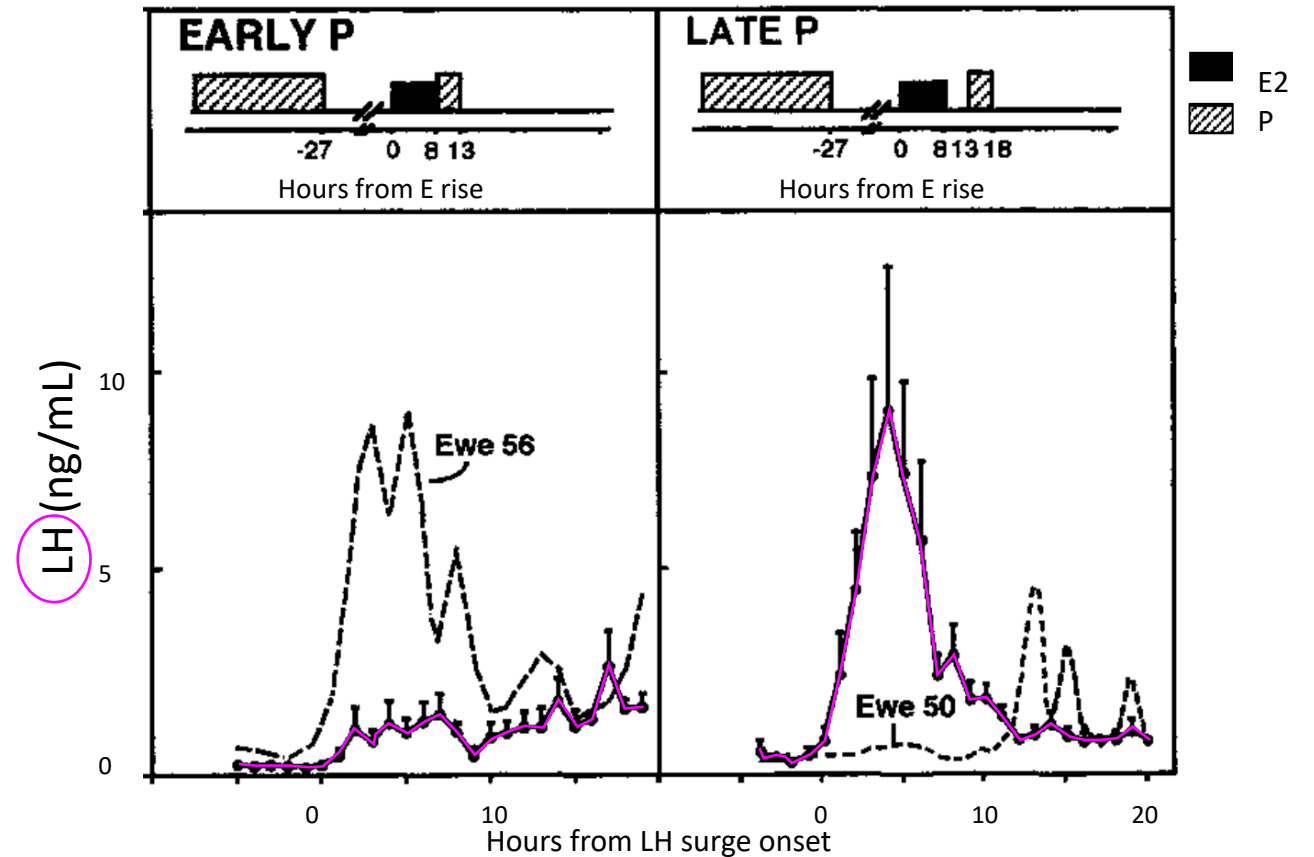
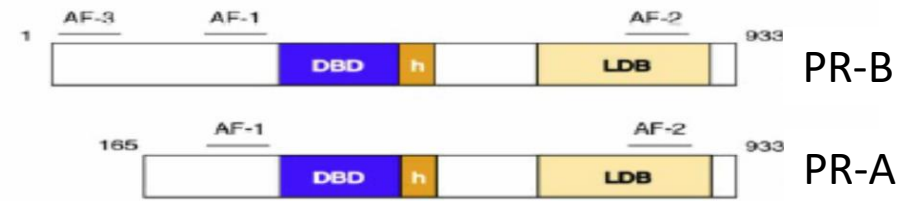
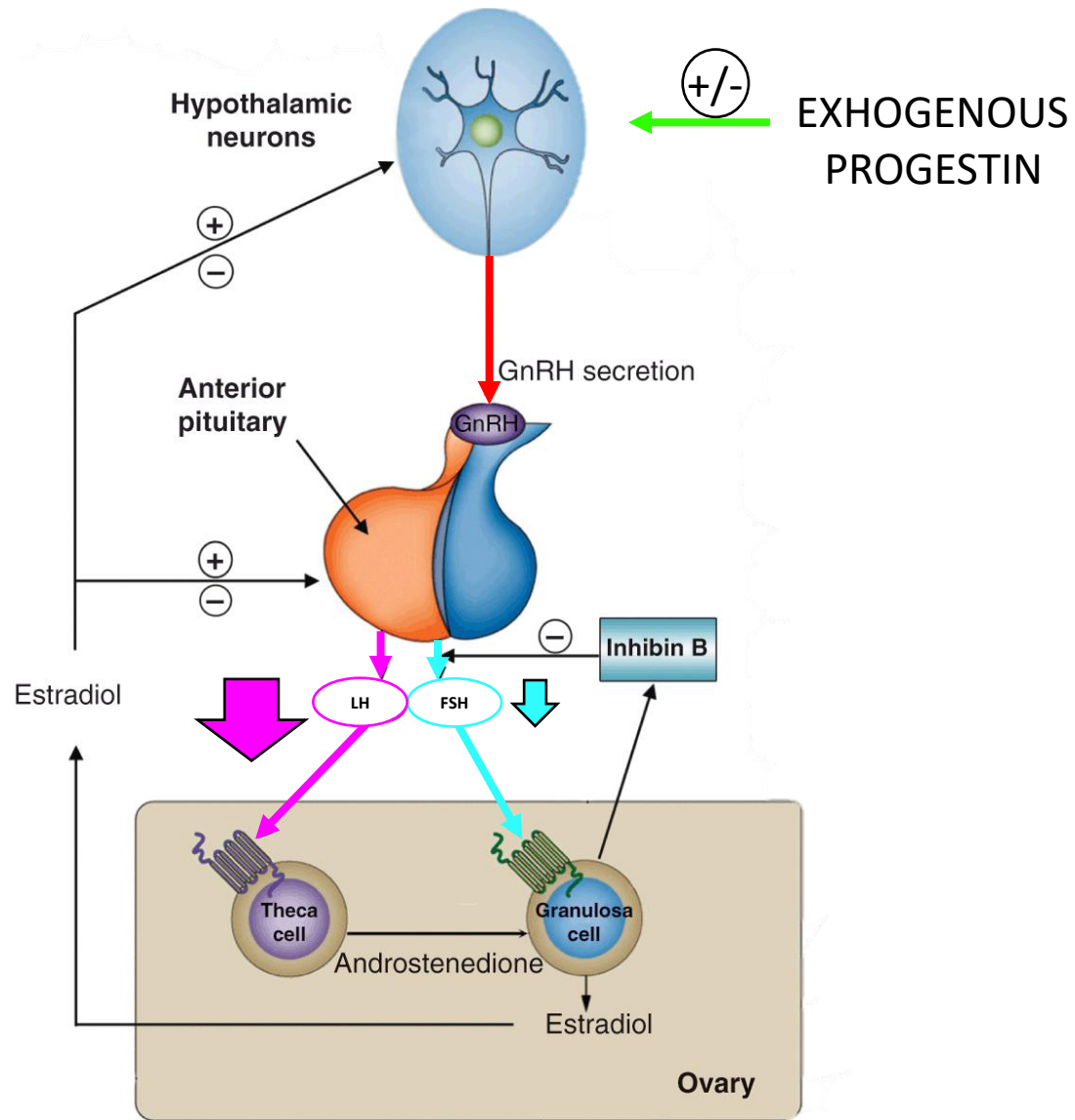






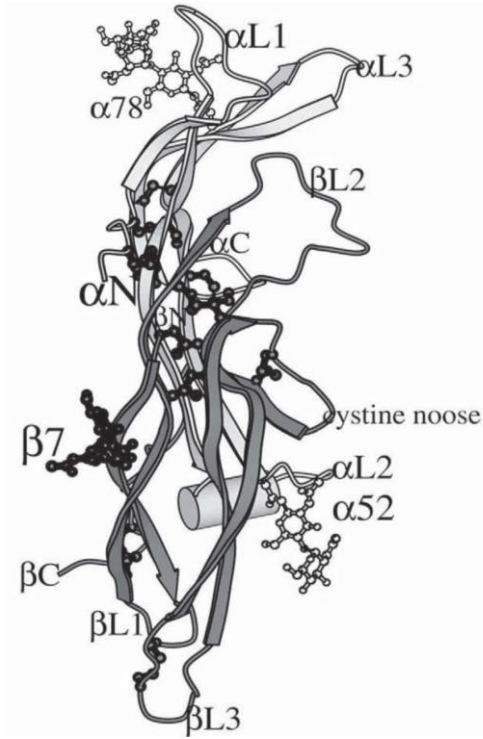






A close-up photograph of a medical professional, likely a doctor or nurse, wearing a white lab coat and white gloves. The person is holding a small glass vial in their right hand and a syringe in their left hand, appearing to be in the process of drawing medication from the vial. The syringe has red markings on it. The background is blurred, showing a clinical setting.

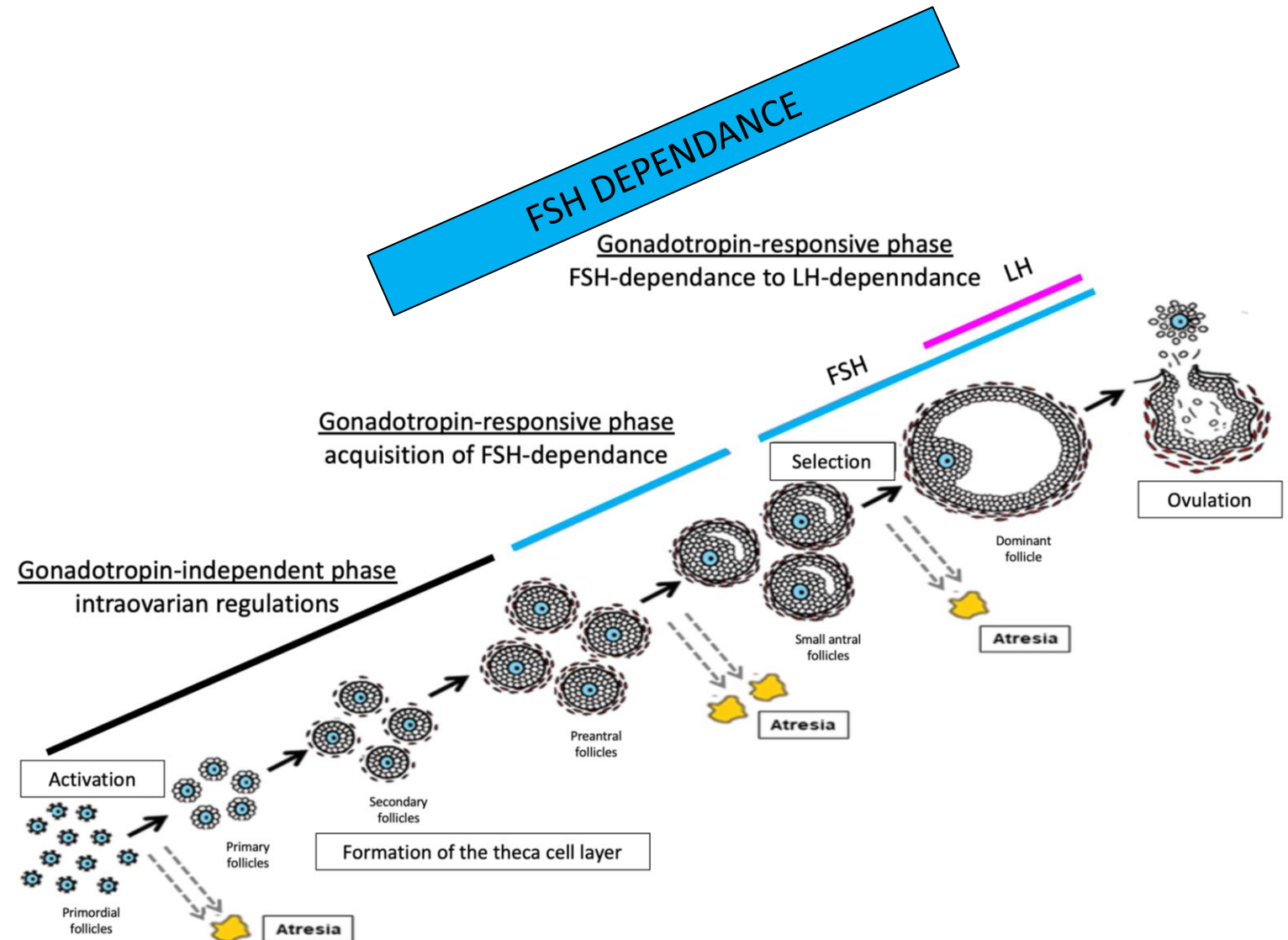
# GONADOTROPINE

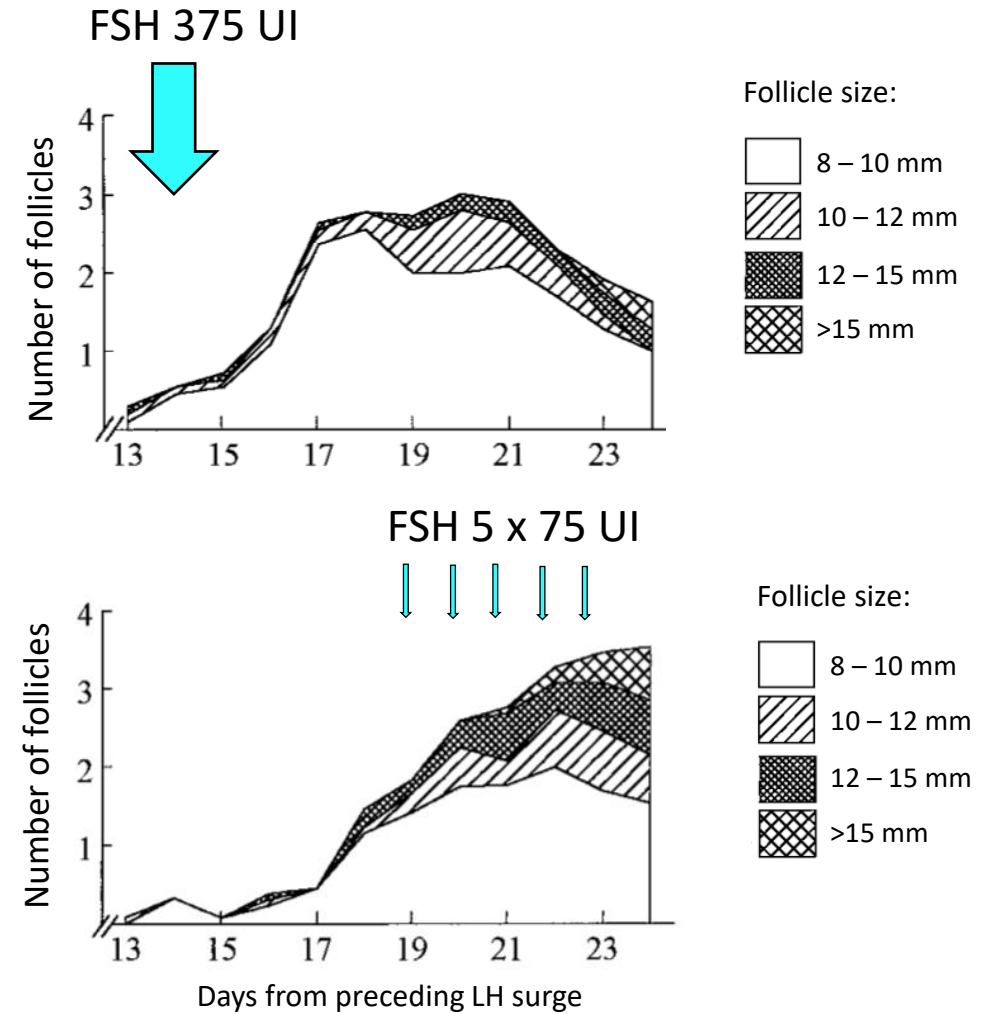
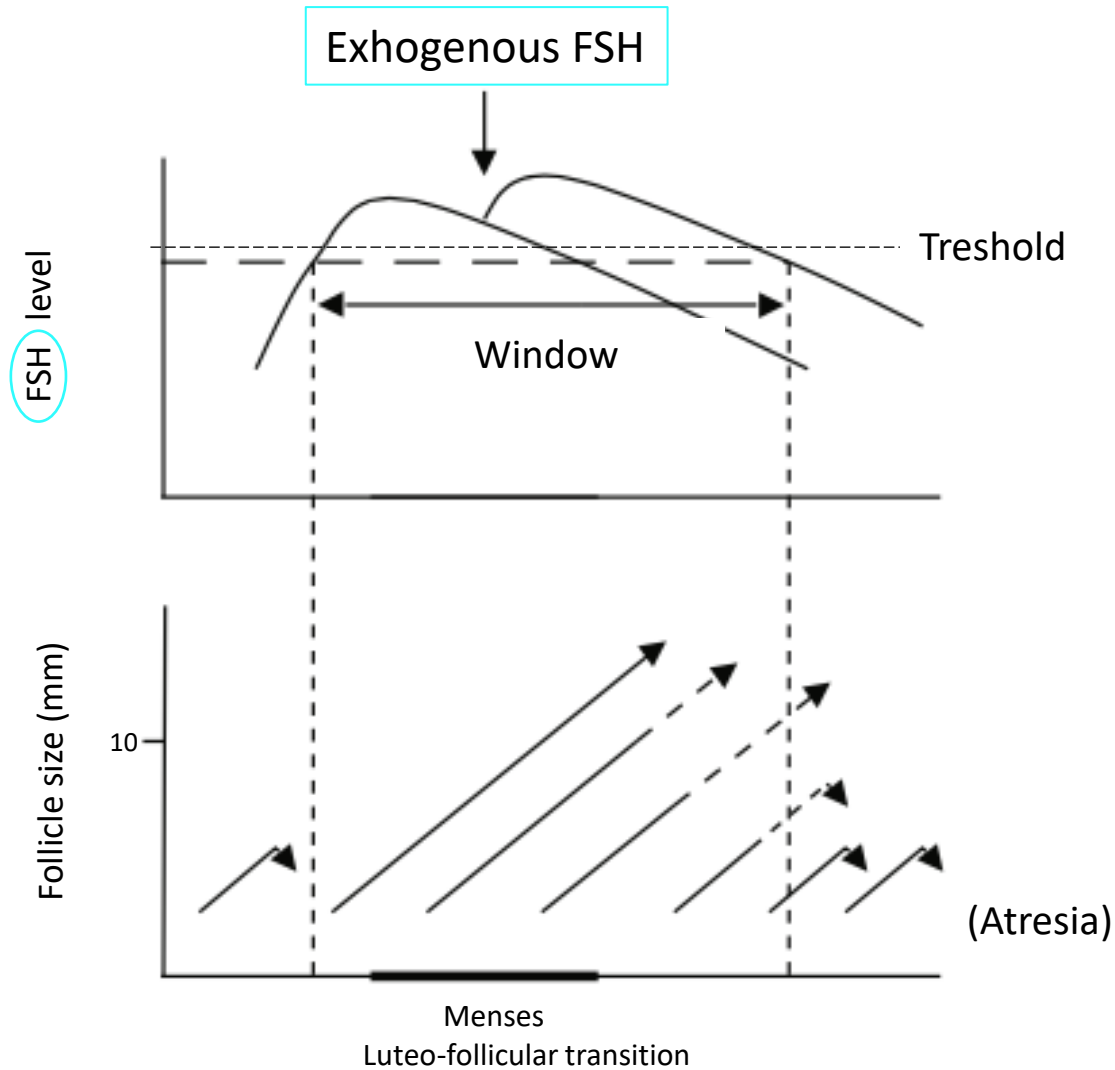


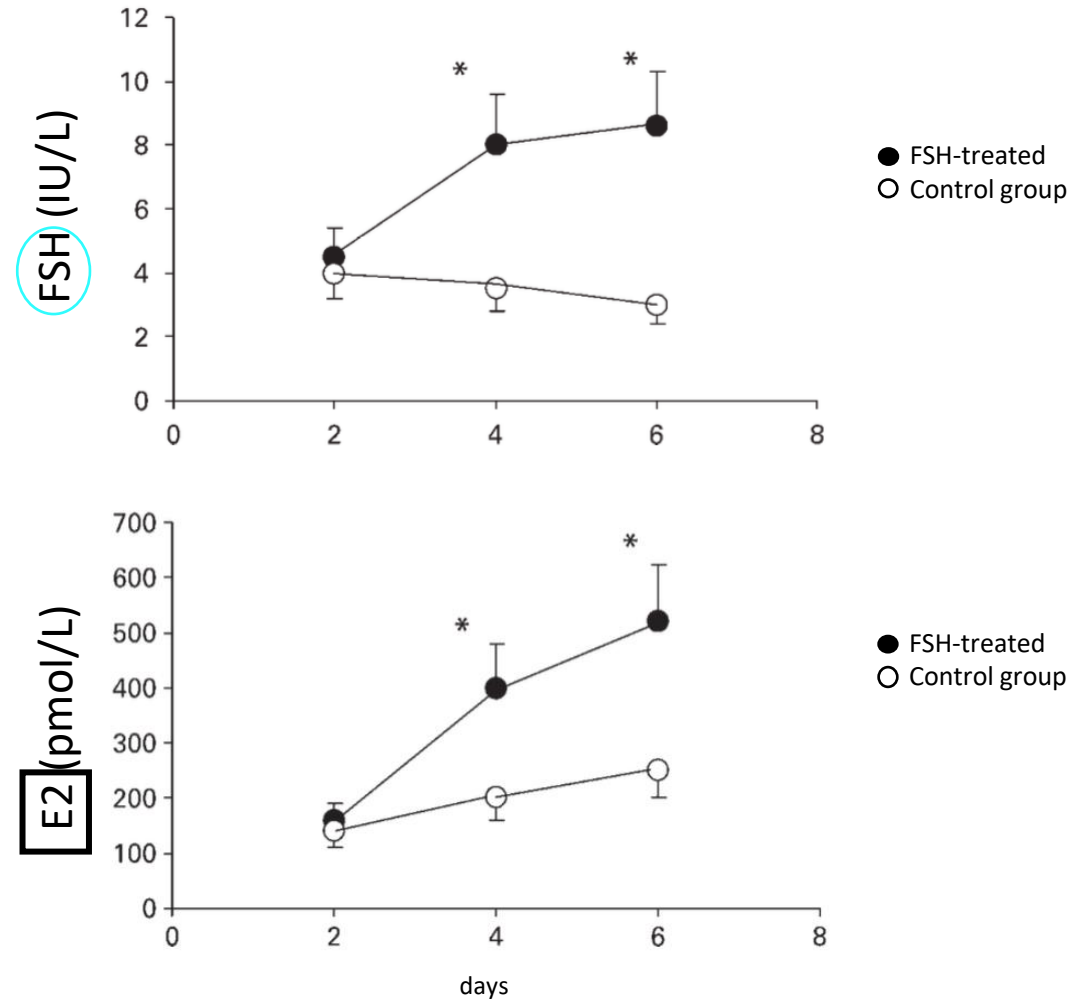
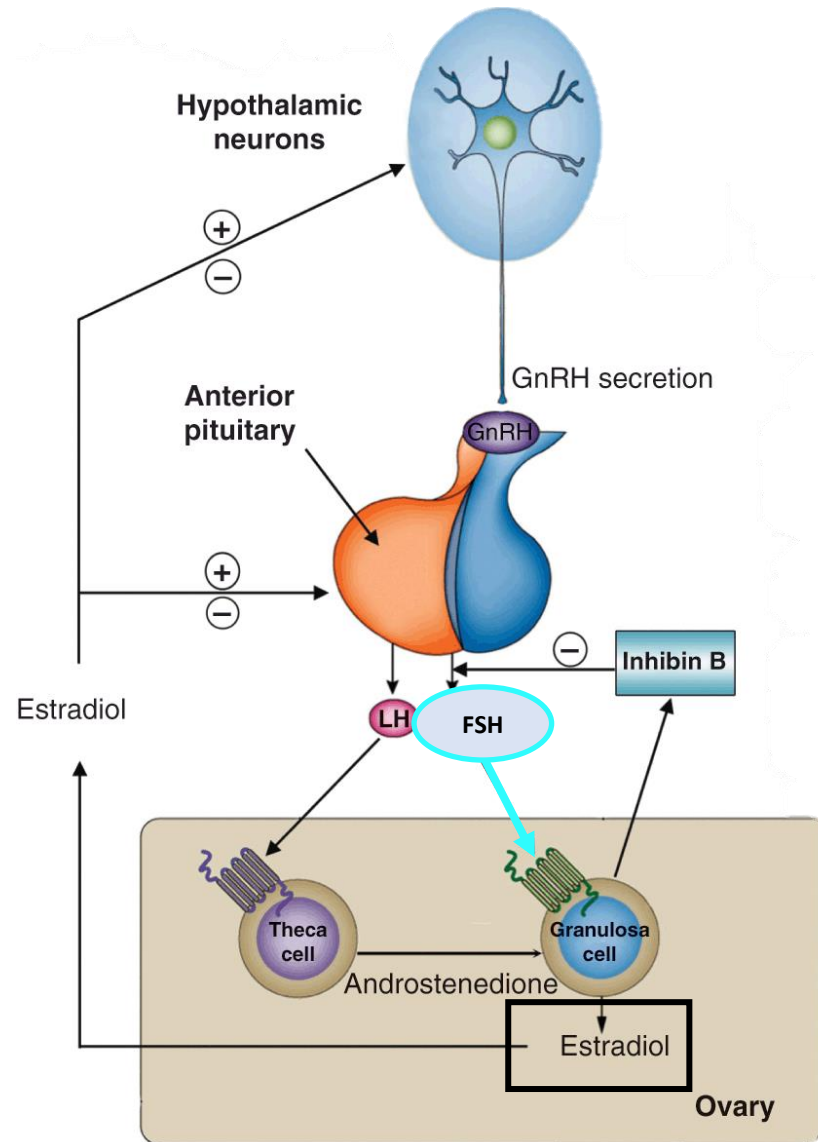
**FSH**



	FSH/LH ratio
u-FSH	1:1
HP-FSH	75:1
r-FSH	No LH



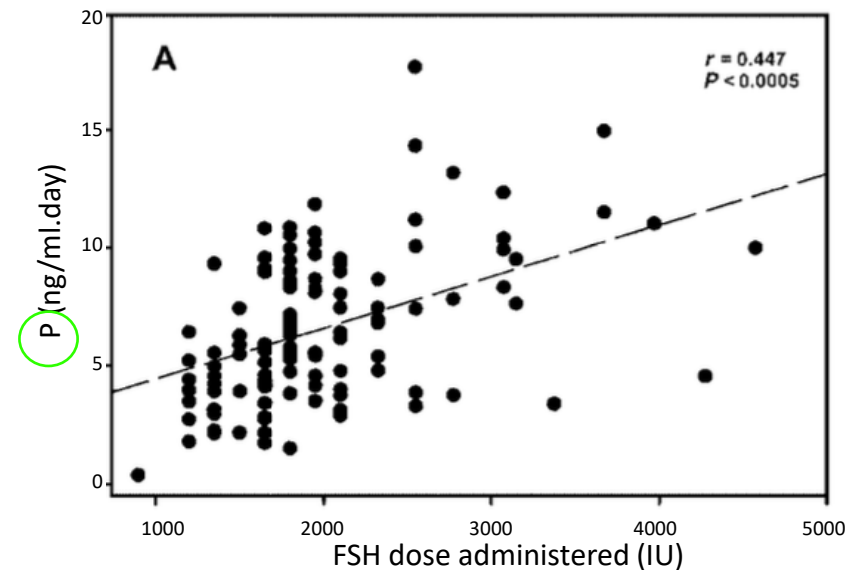
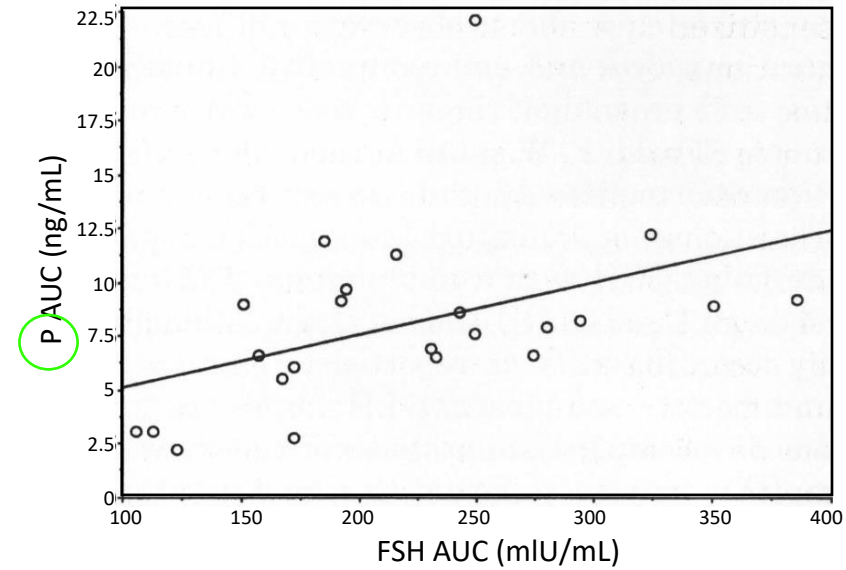






Clinical features and cycle outcome of controlled ovarian stimulation between premature luteinization and no premature luteinization GnRH antagonist cycles.

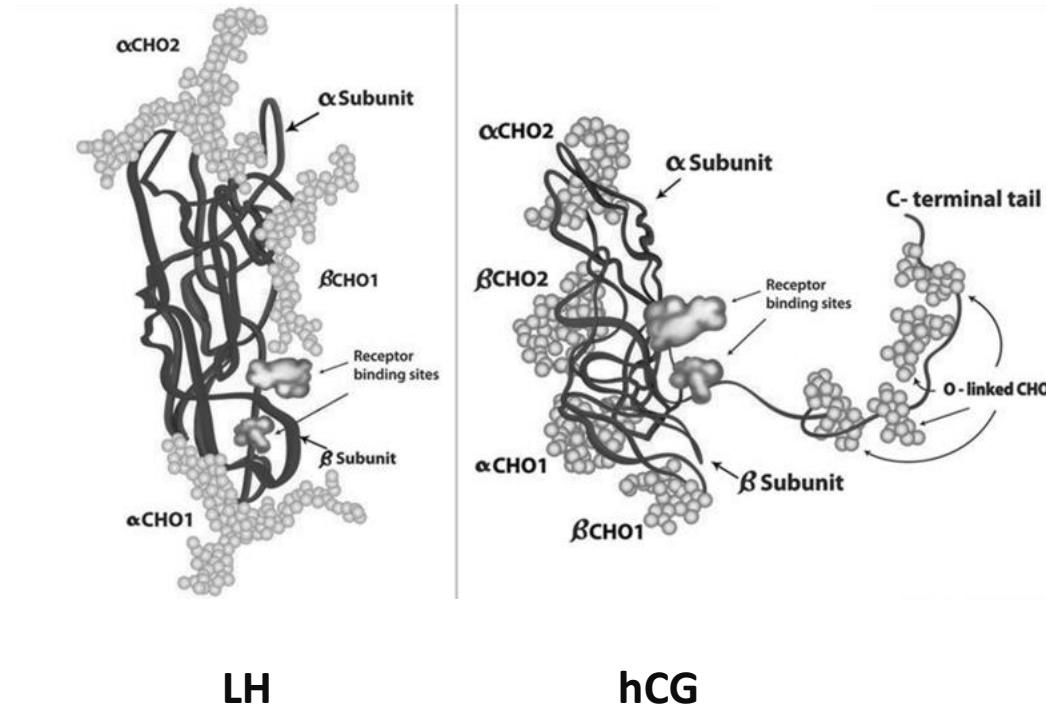
Variable	Premature luteinization (P $\geq 1.2$ ng/mL)	No premature luteinization (P $< 1.2$ ng/mL)	P value
No. of patients (%)	31/81 (38.3%)	50/81 (61.7%)	
Age (y)	32.9 $\pm$ 3.0	32.0 $\pm$ 2.9	NS
Serum E <sub>2</sub> level on stimulation day 3 (pg/mL)	148 $\pm$ 111	184 $\pm$ 95	NS
Serum E <sub>2</sub> level on day of hCG (pg/mL)	1945 $\pm$ 966	1679 $\pm$ 705	NS
Serum LH on day of hCG (IU/L)	1.2 $\pm$ 1.8	1.1 $\pm$ 1.1	NS
No. of FSH stimulation days	9.9 $\pm$ 1.6	8.9 $\pm$ 1.4	.006 <sup>a</sup>
Total FSH dose (IU)	2893 $\pm$ 1176	2331 $\pm$ 874	.016 <sup>a</sup>
Days of GnRH antagonist administration	5.3 $\pm$ 1.9	4.6 $\pm$ 1.3	NS
No. of follicles >16 mm	9.7 $\pm$ 3.9	9.5 $\pm$ 3.4	NS
No. of oocytes retrieved	16.8 $\pm$ 8.1	16.1 $\pm$ 7.1	NS
Fertilization rate with IVF (%)	61.7 $\pm$ 27.6	59.8 $\pm$ 40.2	NS
Fertilization rate with ICSI (%)	81.0 $\pm$ 20.0	80.5 $\pm$ 16.3	NS
No. of embryos transferred	2.8 $\pm$ 1.0	2.6 $\pm$ 0.8	NS
No. of frozen embryos	2.0 $\pm$ 2.7	2.6 $\pm$ 3.2	NS
Pregnancy per transfer (%)	8/31 (25.8%)	27/50 (54.0%)	.01 <sup>b</sup>
Implantation rate (%)	12/87 (13.8%)	41/128 (32.0%)	.007 <sup>b</sup>

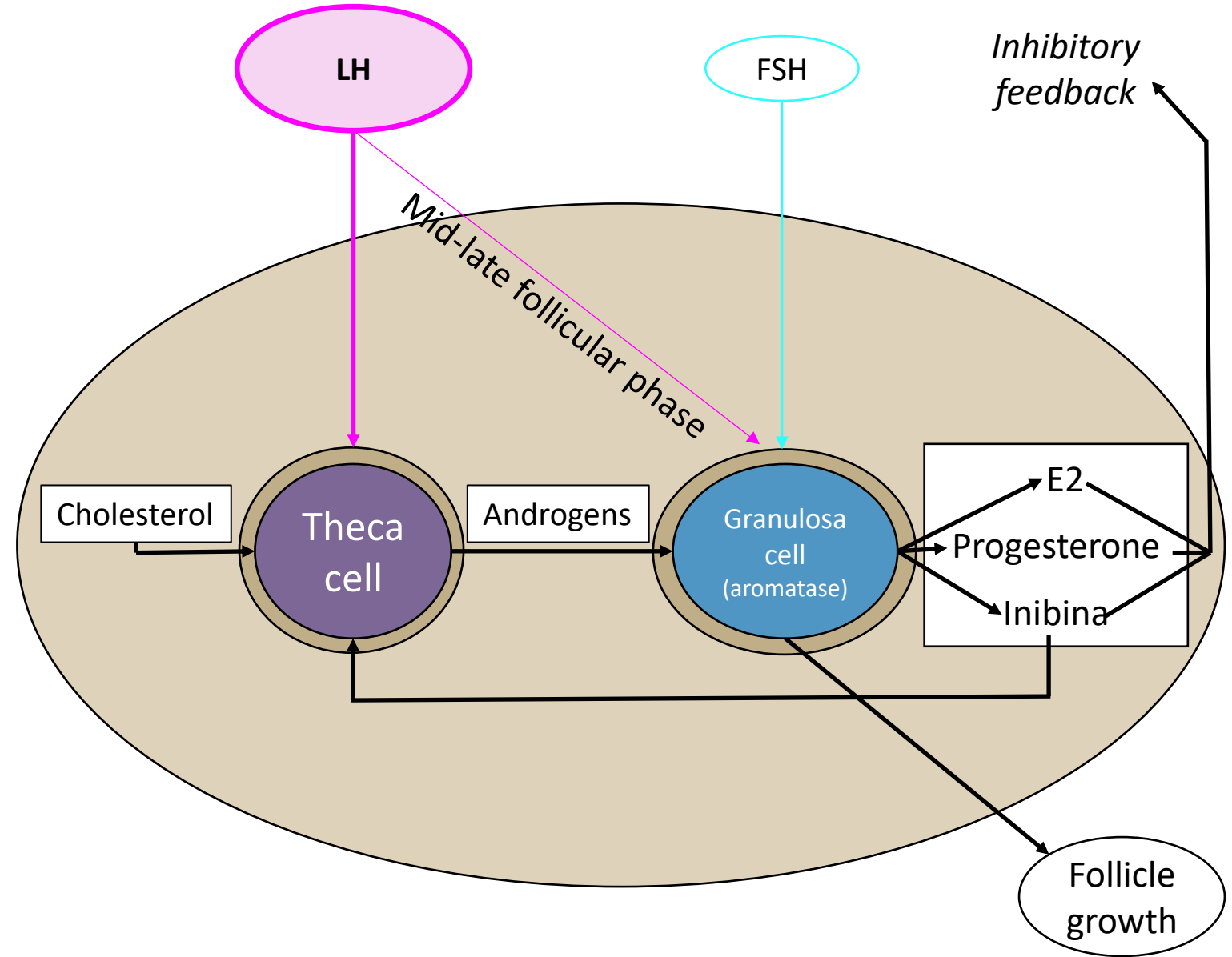
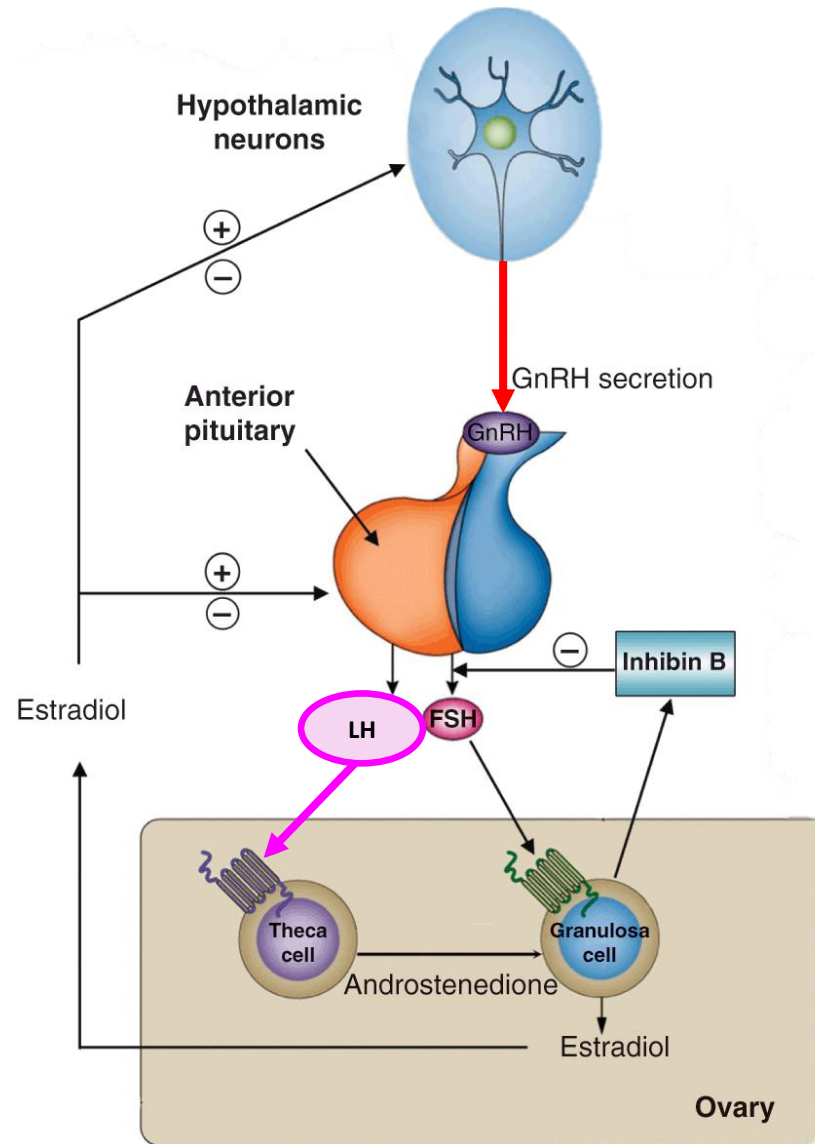


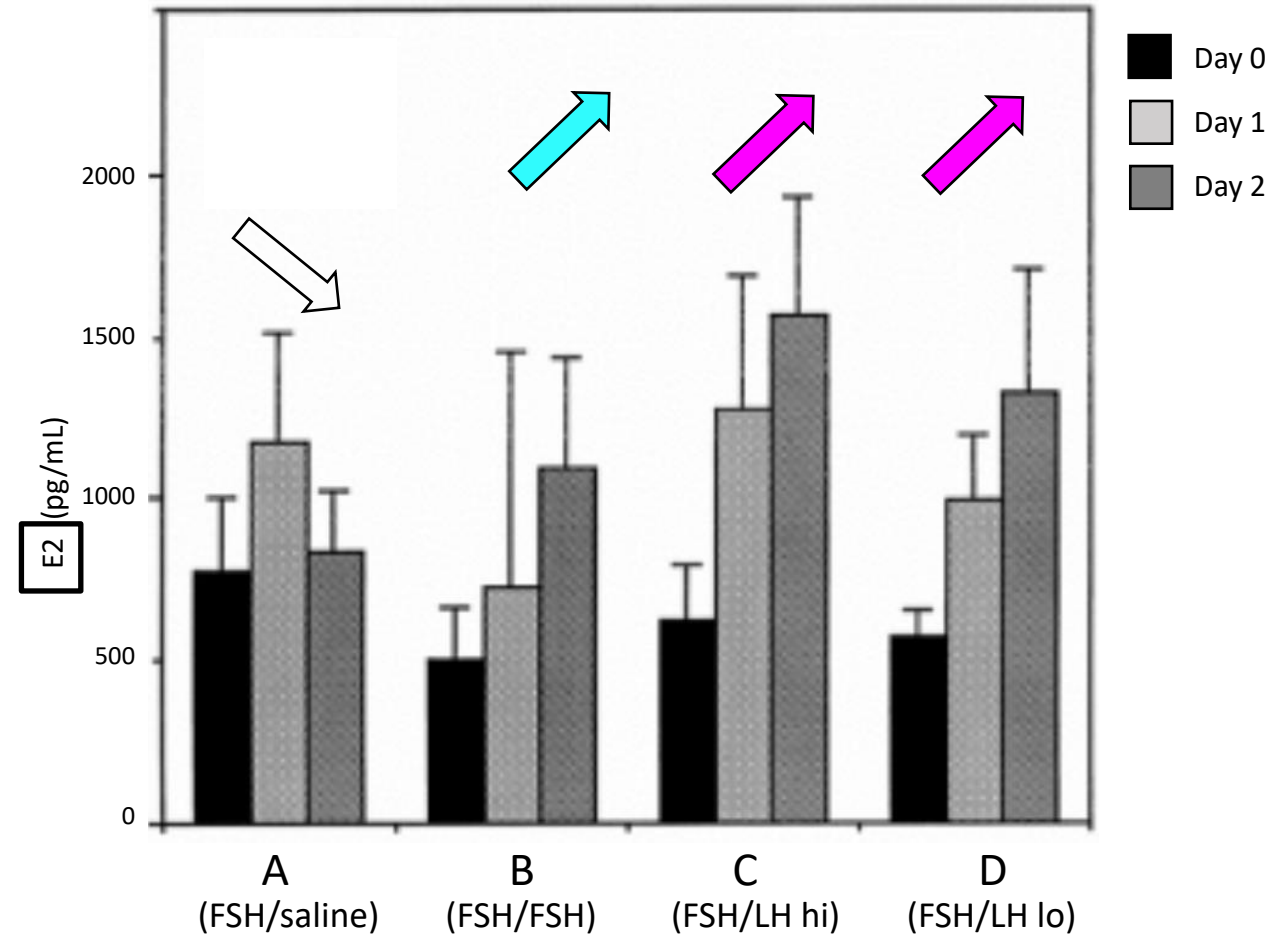
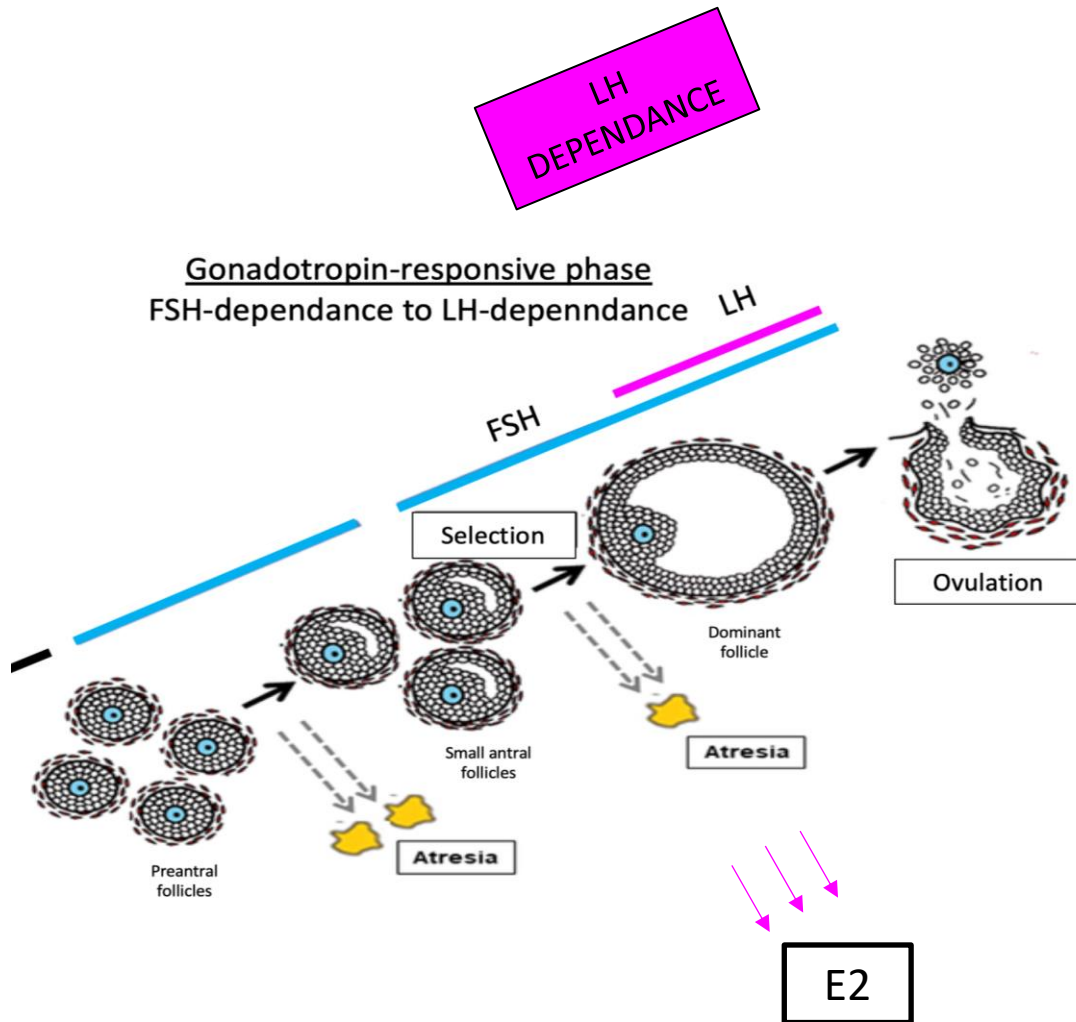
Bosch et al. Premature luteinization during gonadotropin-releasing hormone antagonist cycles and its relationship with in vitro fertilization outcome. *Fertil Steril.* 2003

Ubaldi et al. Premature luteinization in in vitro fertilization cycles using gonadotropin-releasing hormone agonist (GnRH-a) and recombinant follicle-stimulating hormone (FSH) and GnRH-a and urinary FSH. *Fertil Steril.* 1996

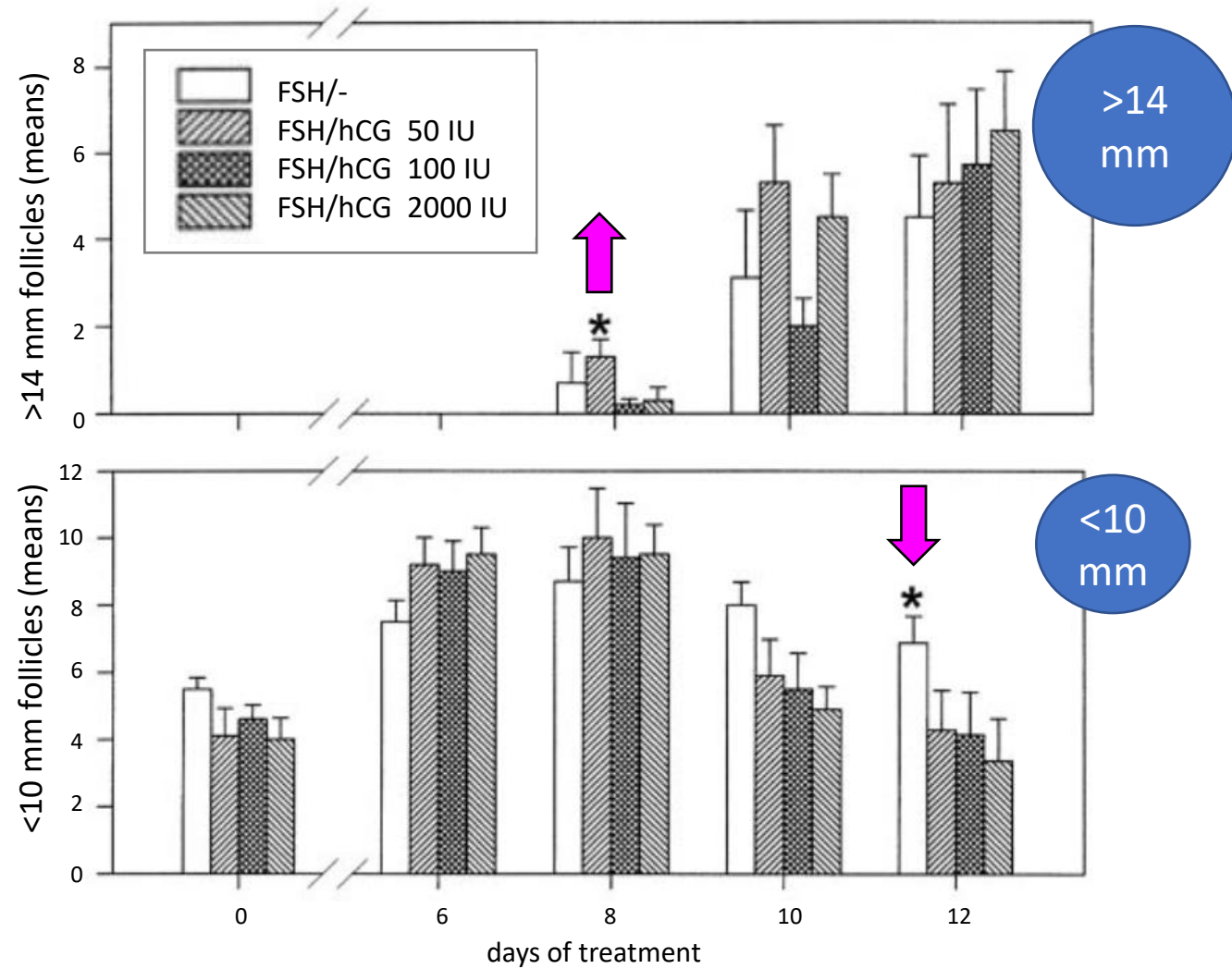
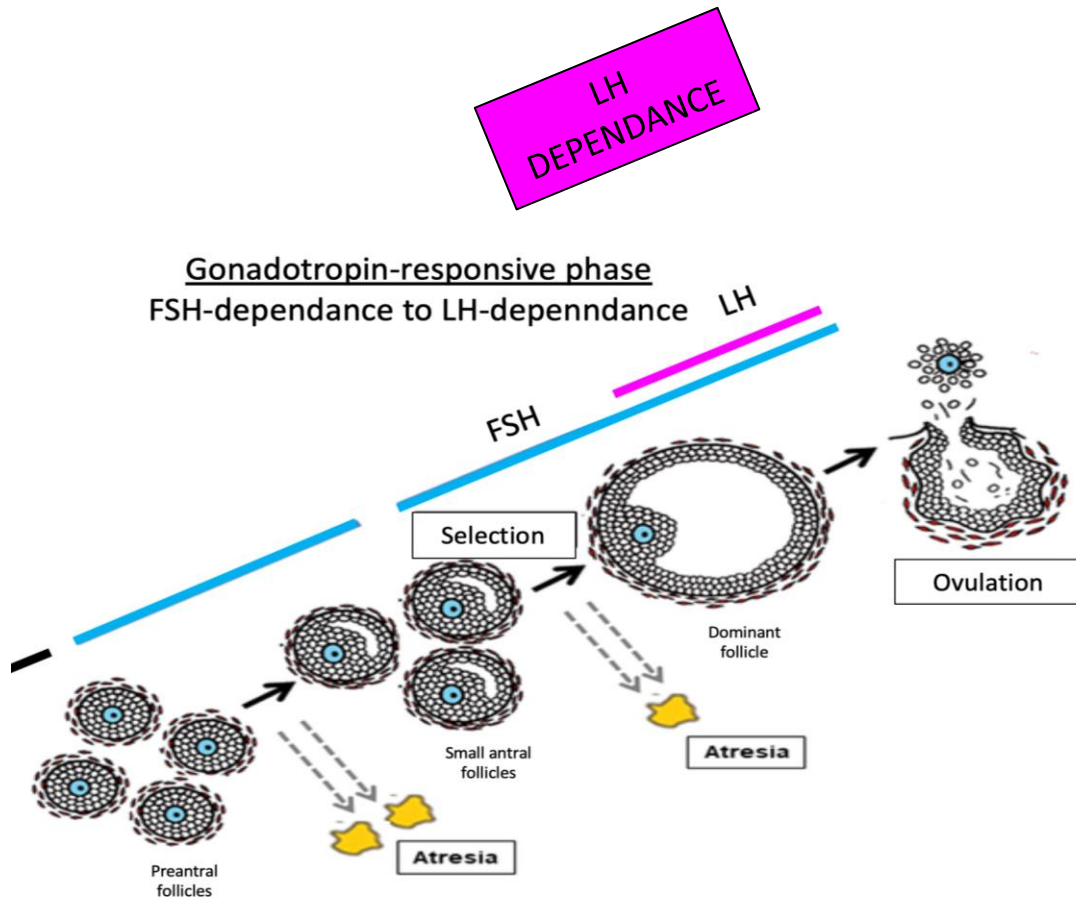
Filicori et al. Modulation of folliculogenesis and steroidogenesis in women by graded menotrophin administration. *Hum Reprod.* 2002





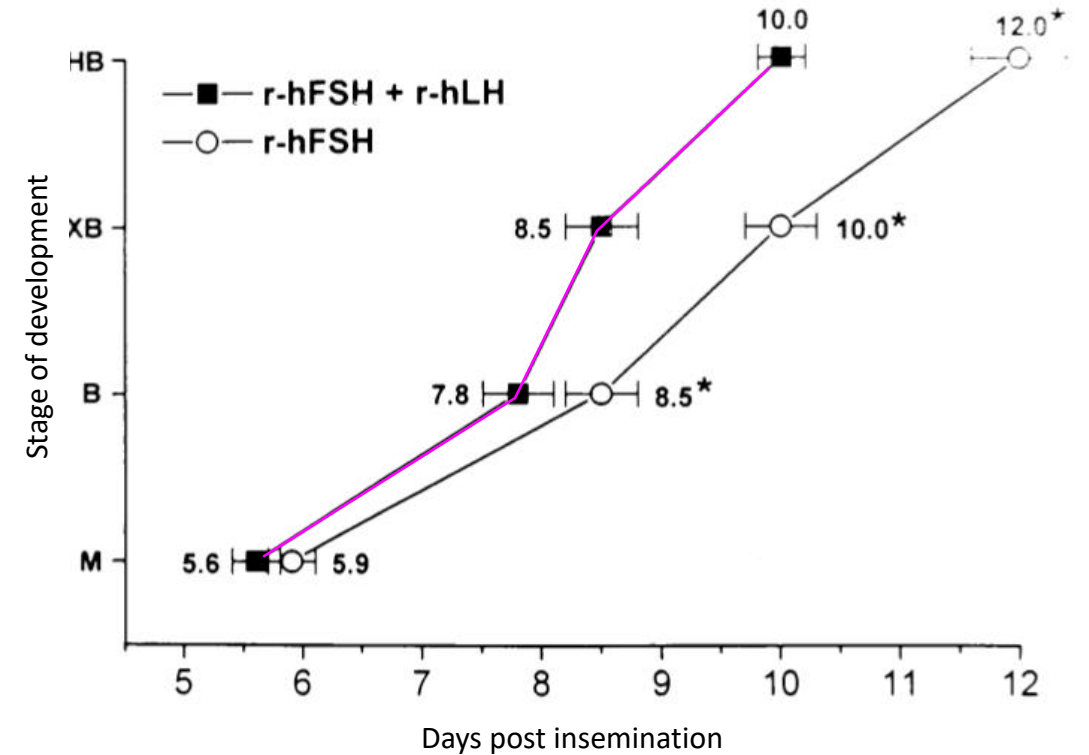
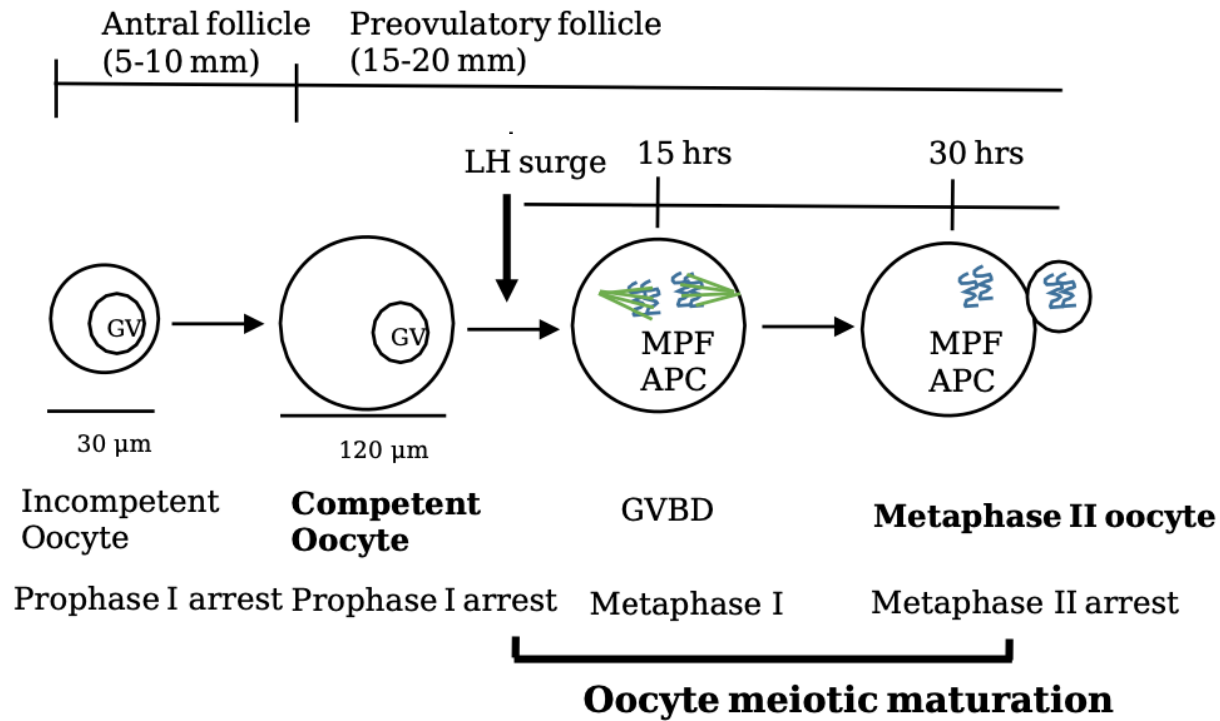






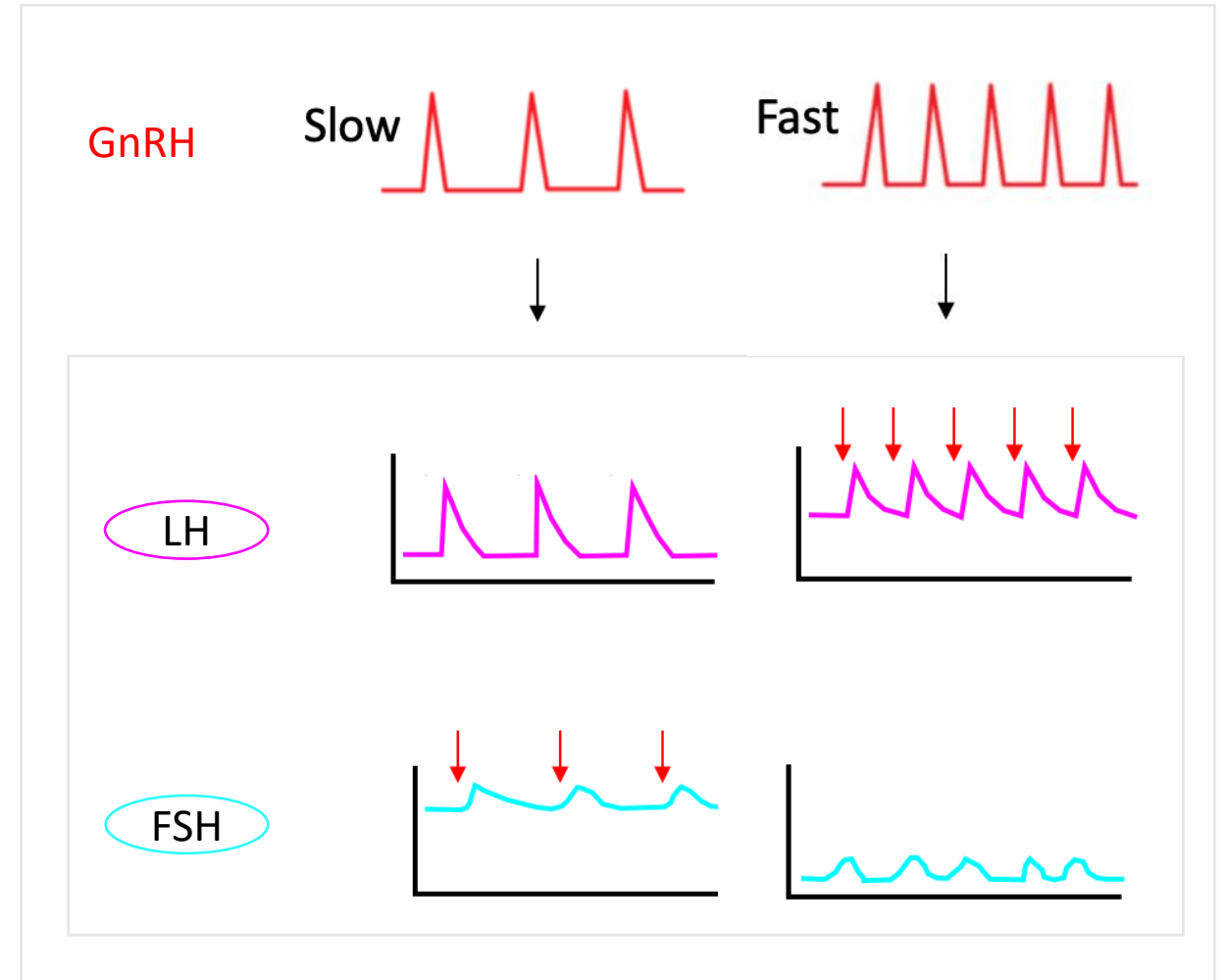
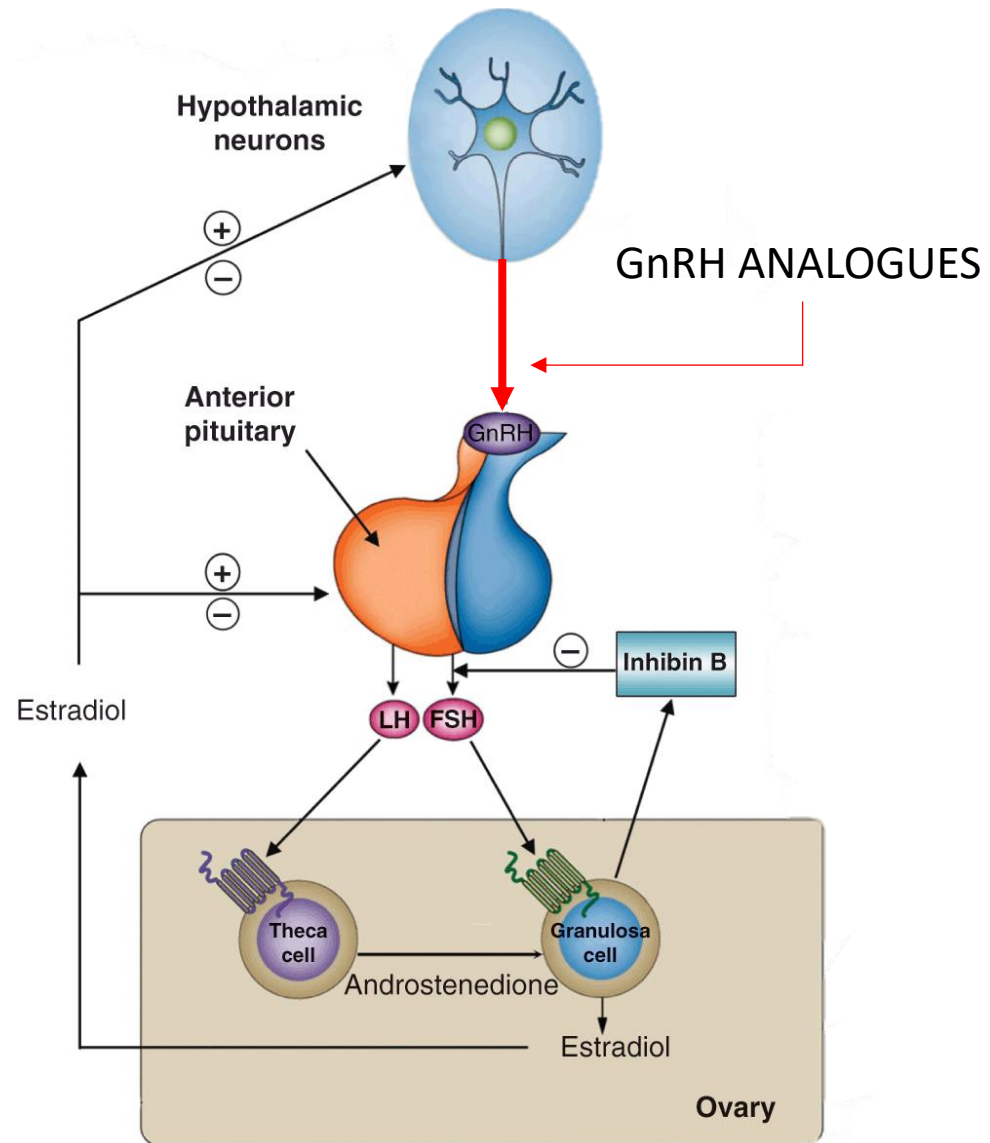
FSH dependent

LH dependent

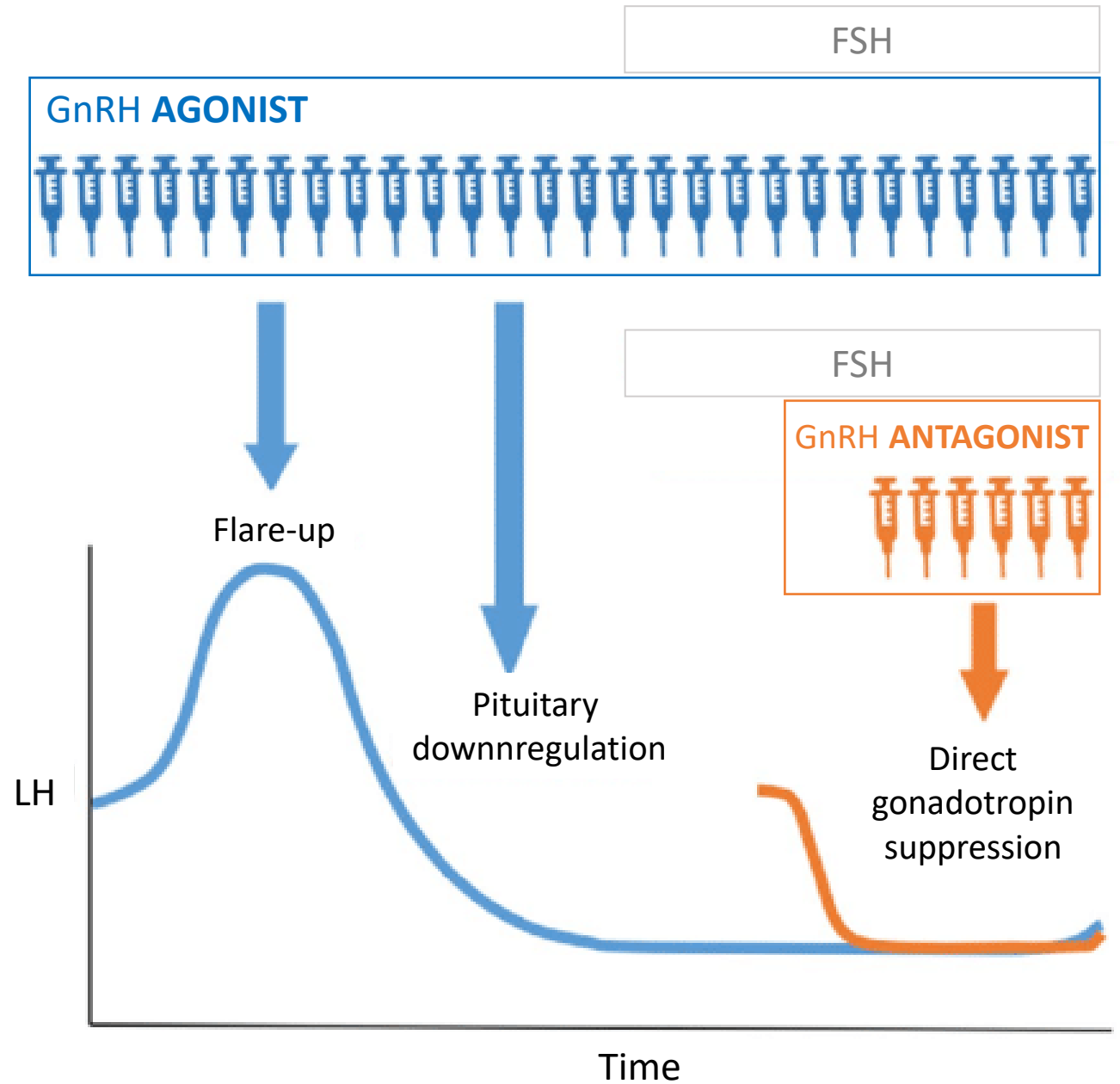
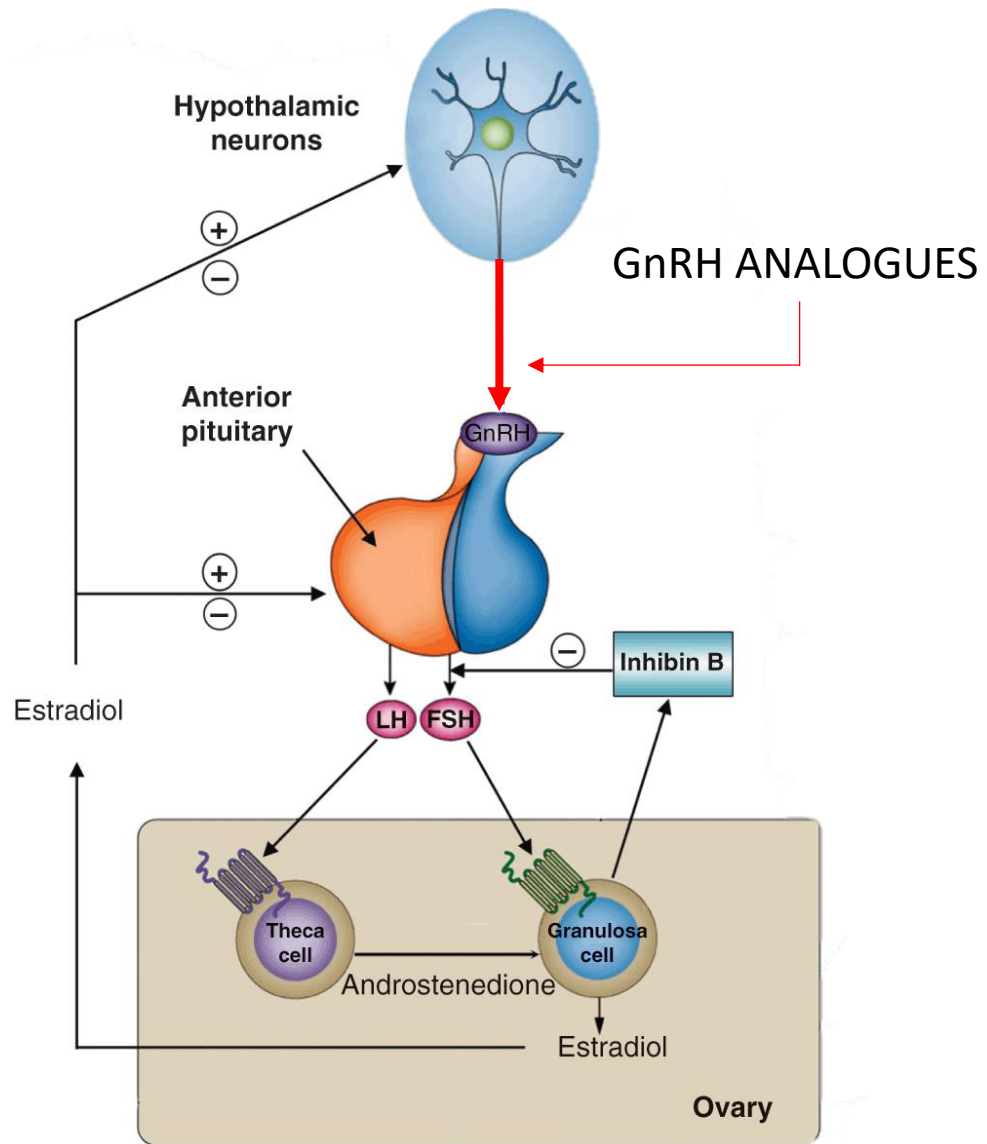


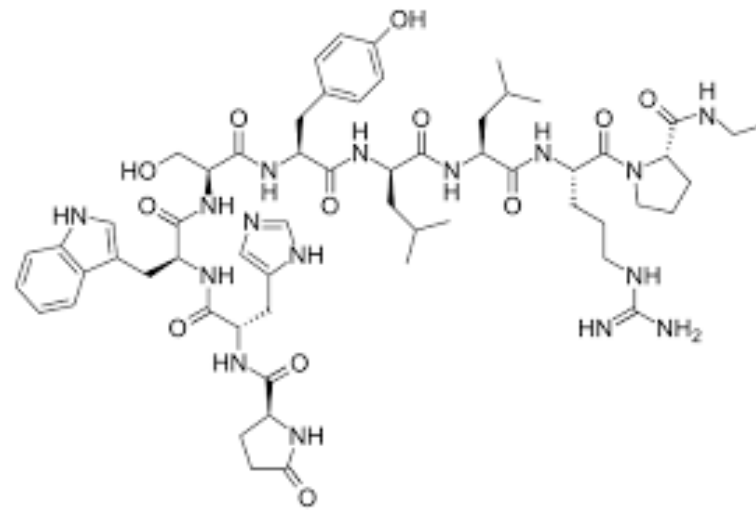
A close-up photograph of a medical professional, likely a doctor or nurse, wearing a white lab coat over a blue and white checkered shirt. They are wearing white nitrile gloves. In their right hand, they hold a small, clear glass vial. In their left hand, they hold a syringe with a red plunger and a scale marked from 0 to 60 in red numbers. The background is blurred, showing a clinical setting.

# ANALOGHI GnRH

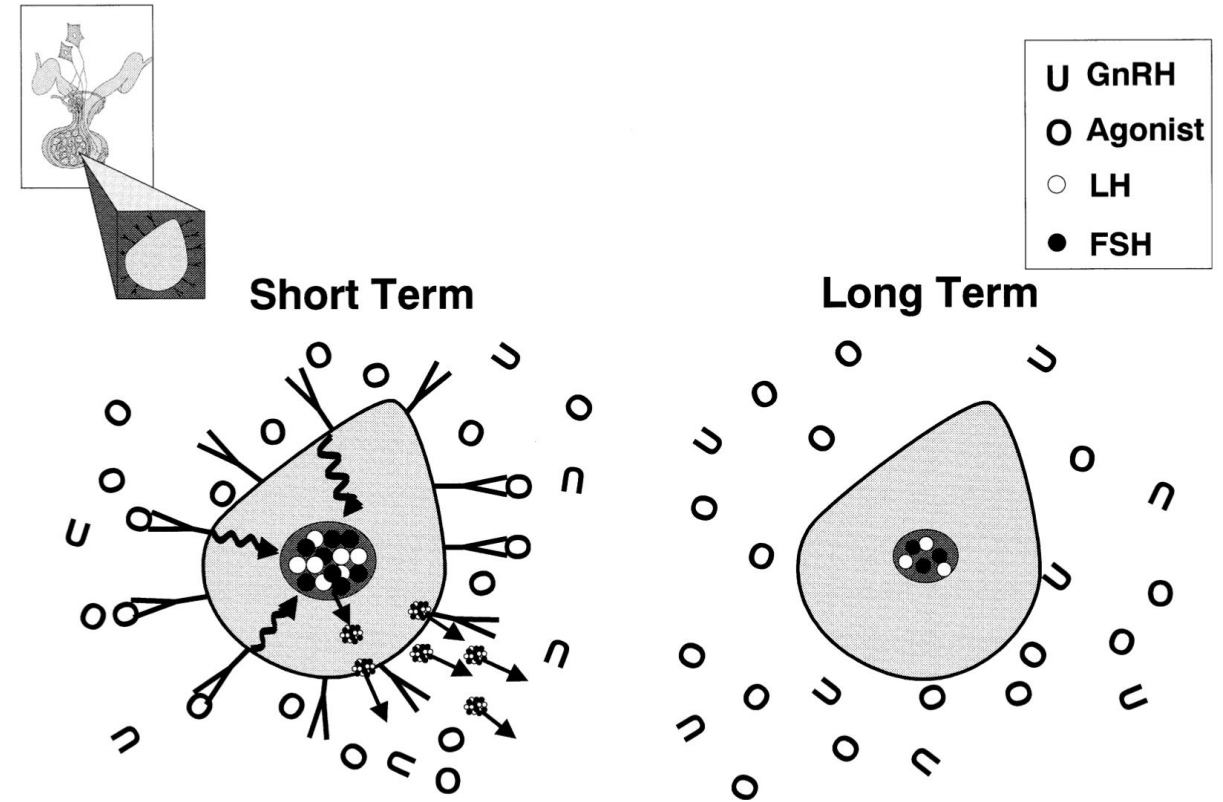
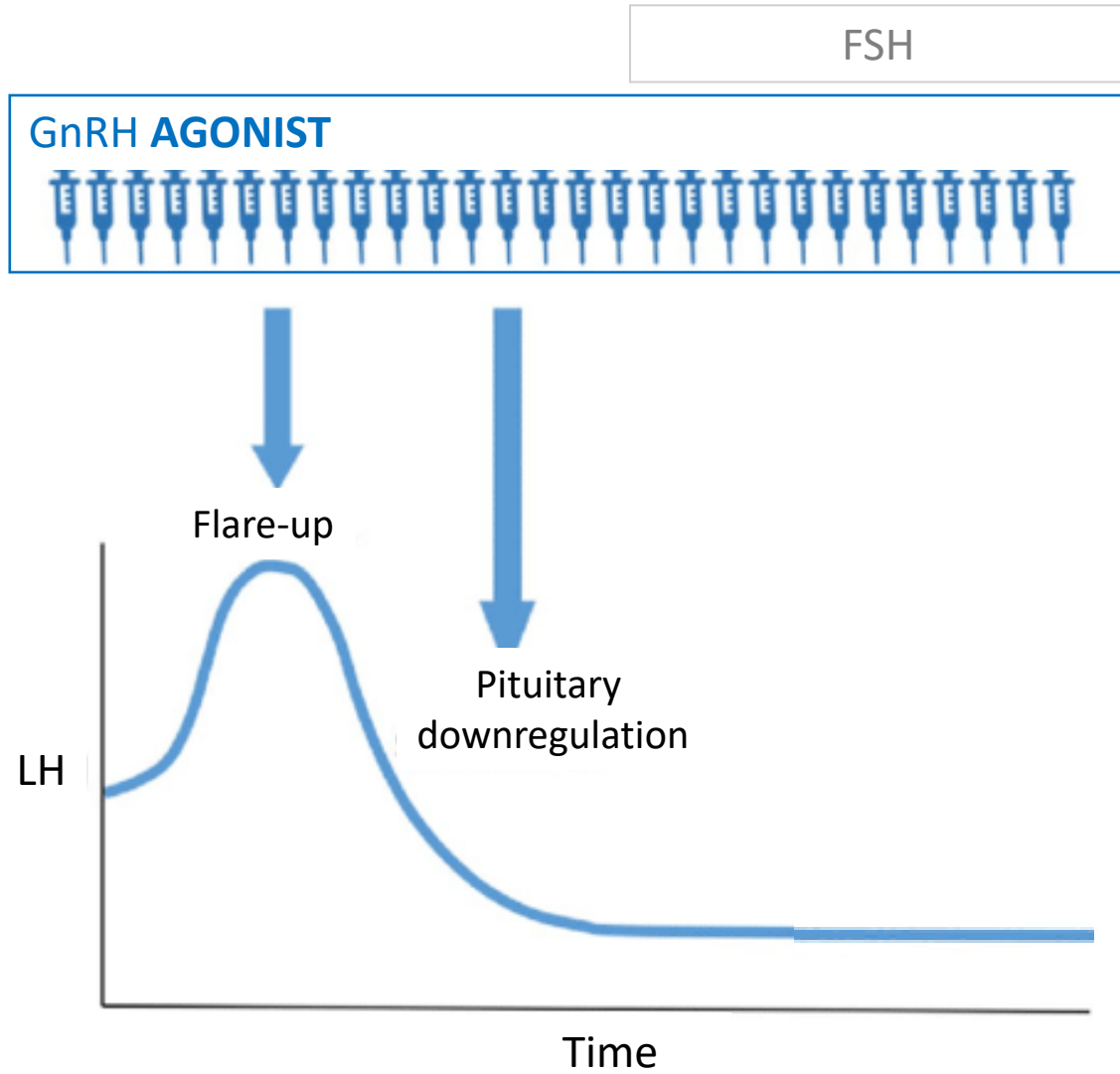


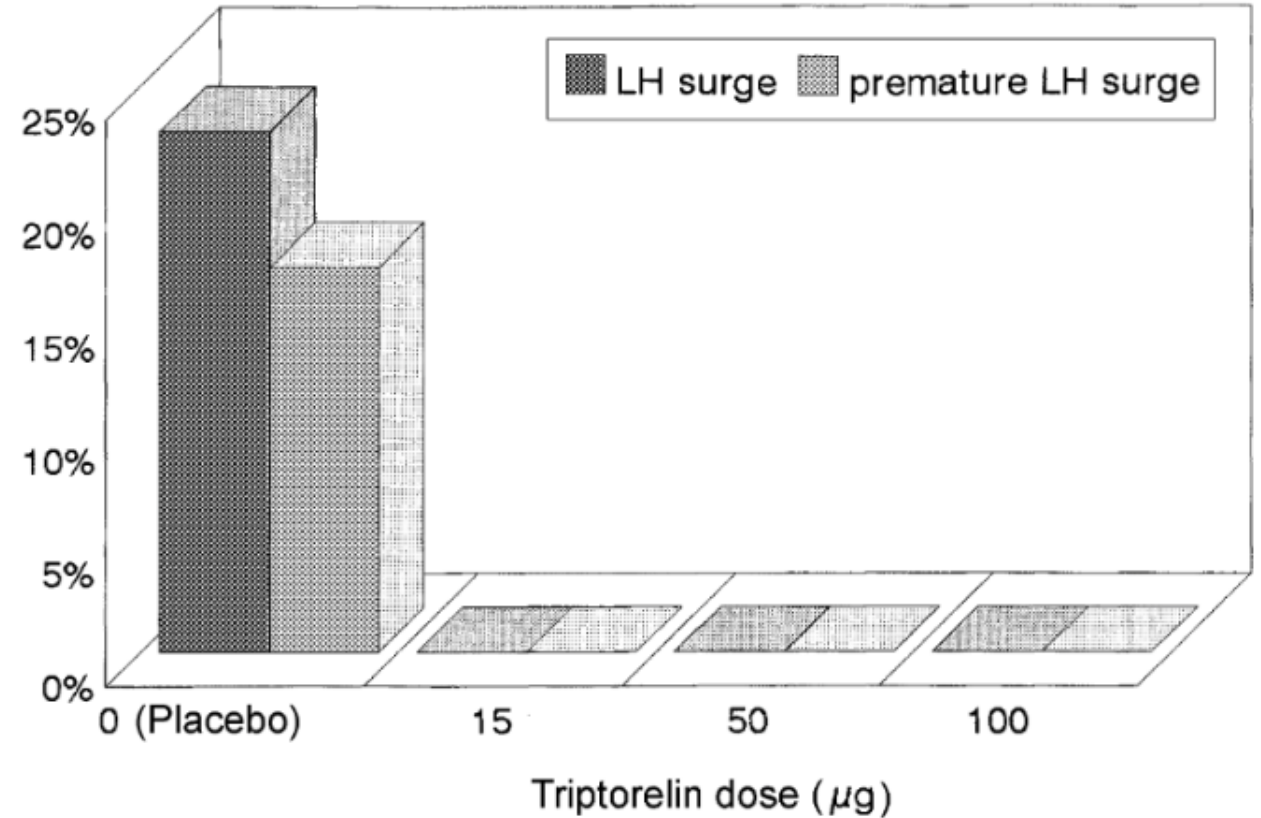
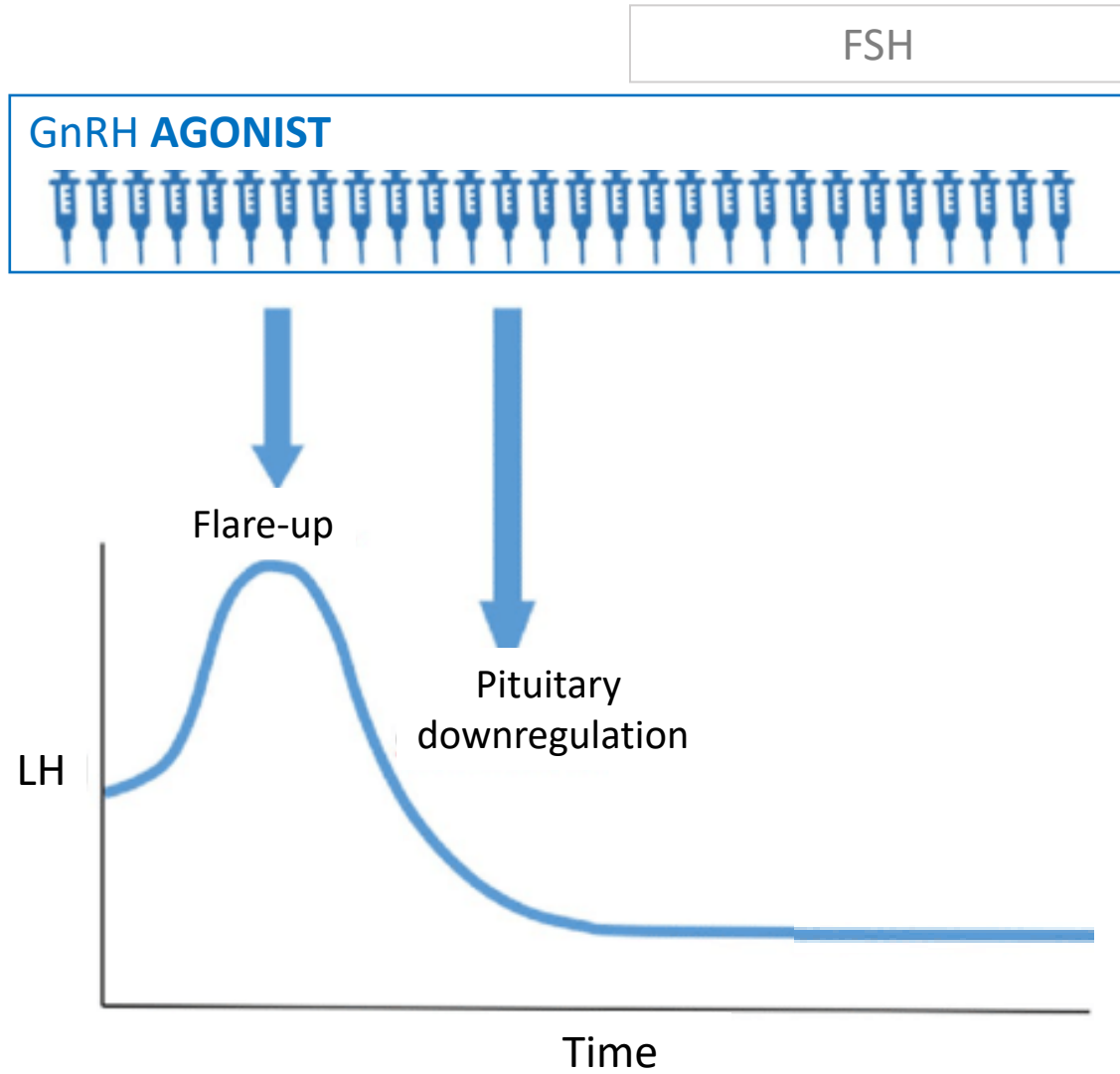




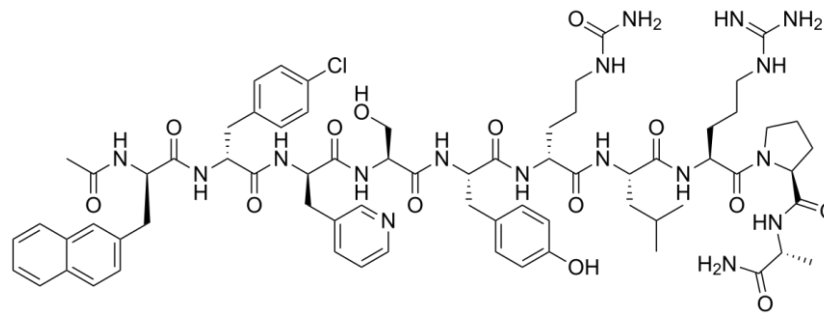


**GnRH AGONISTI**

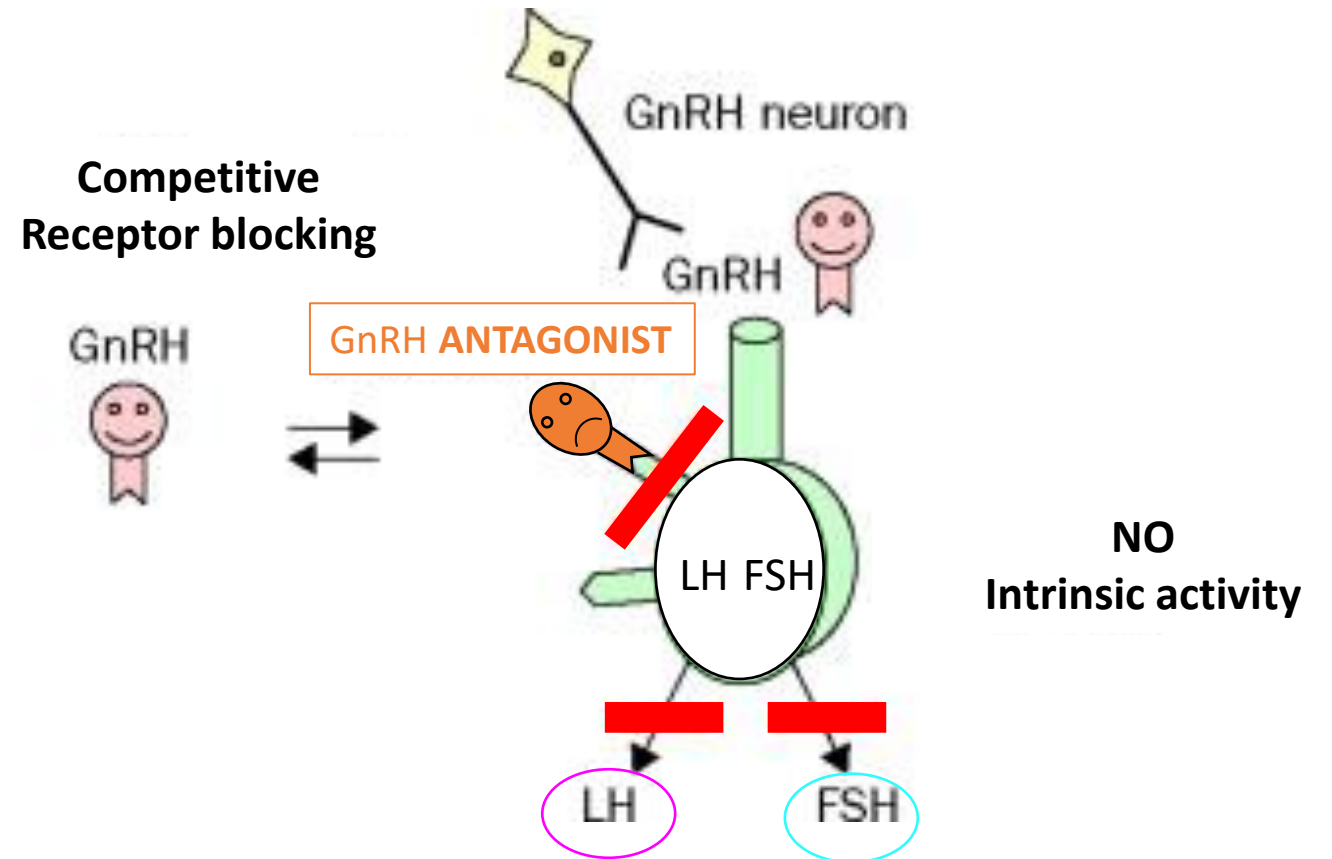
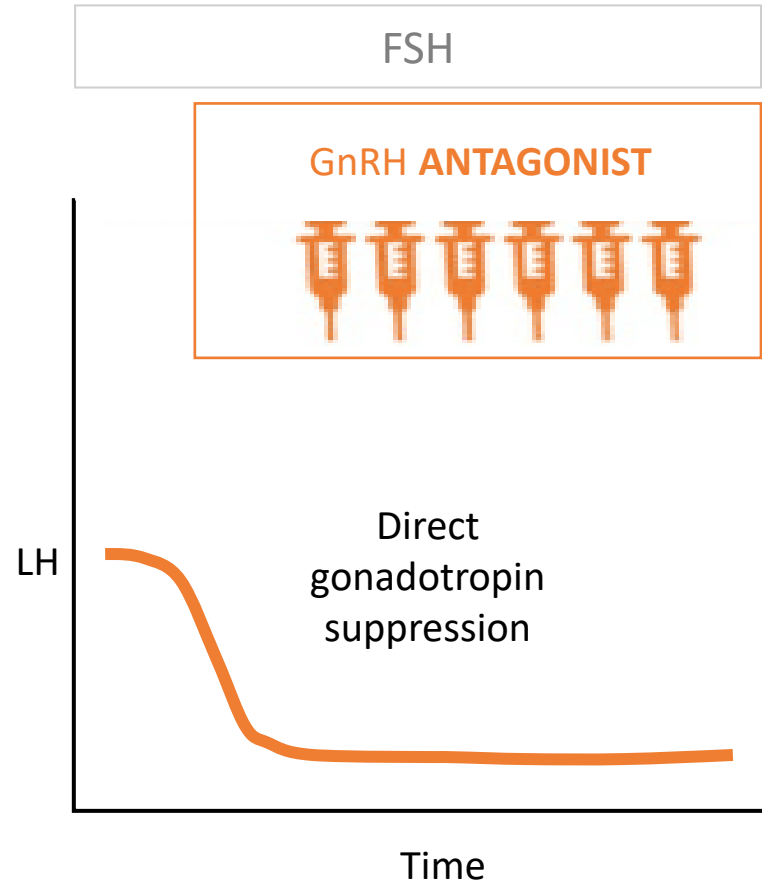


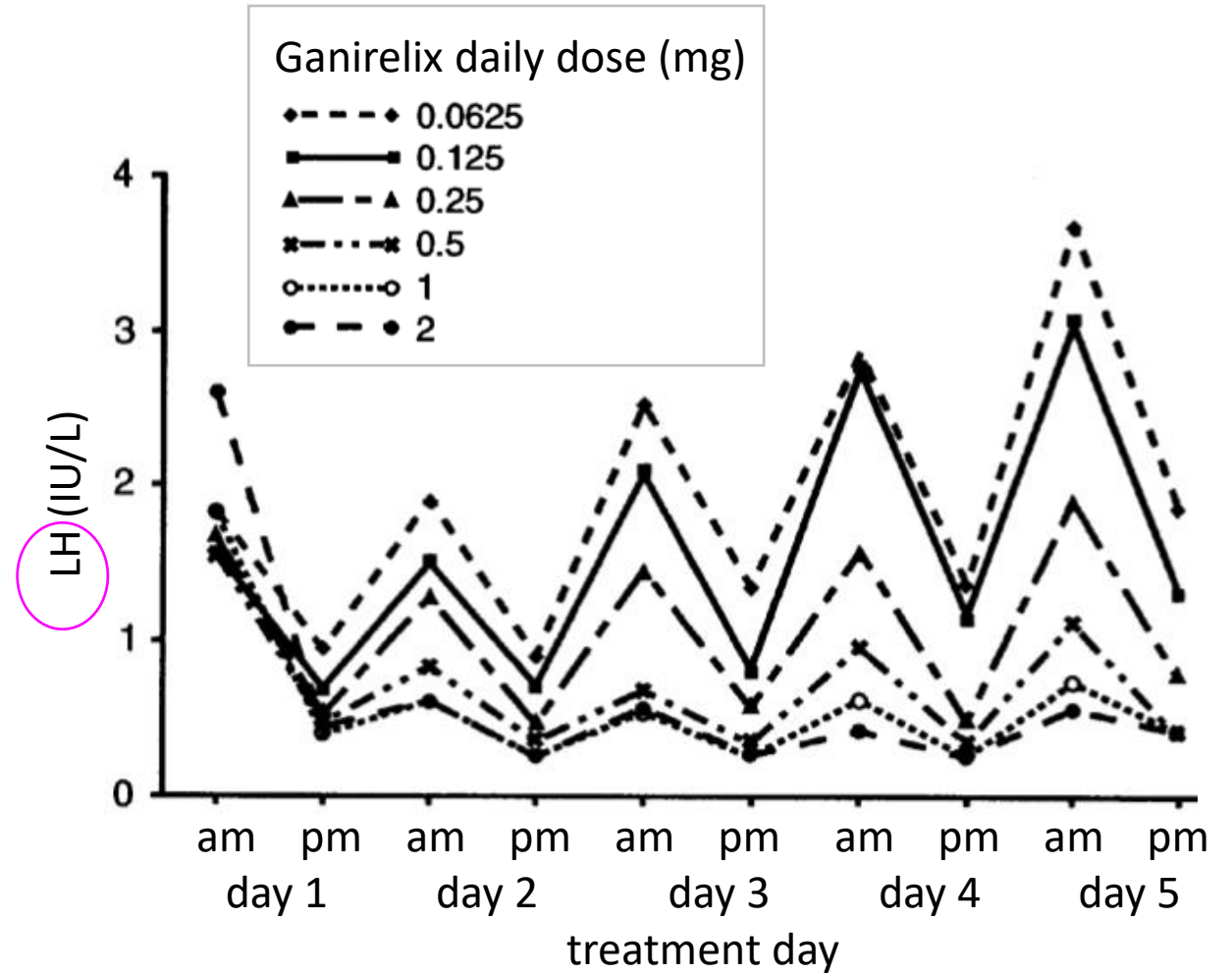
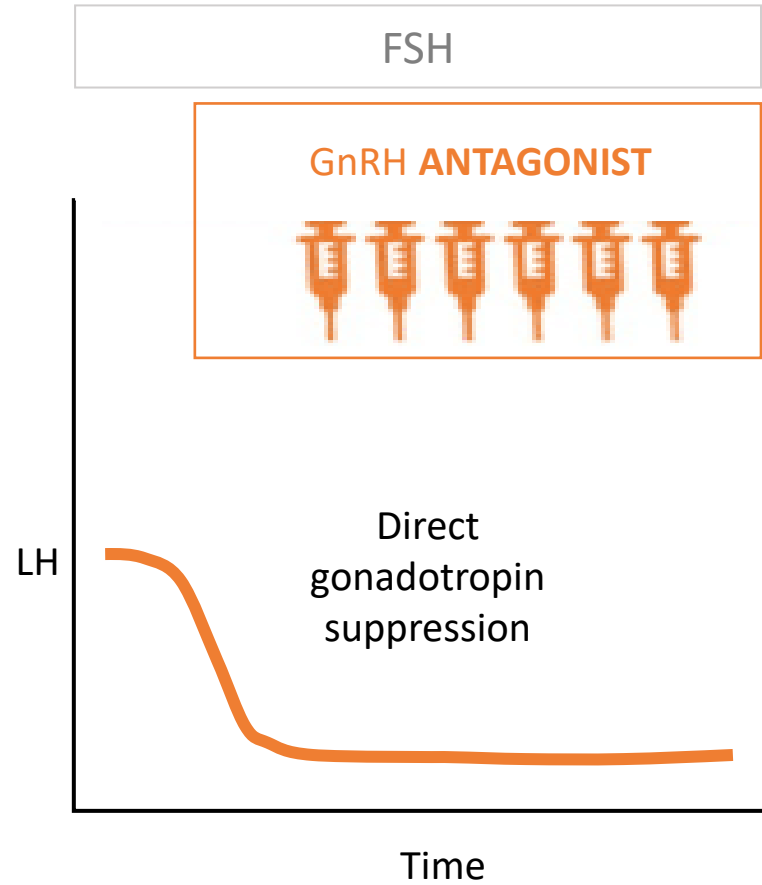






**GnRH ANTAGONISTI**

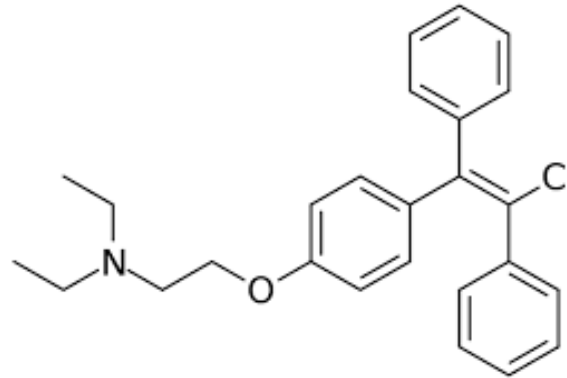




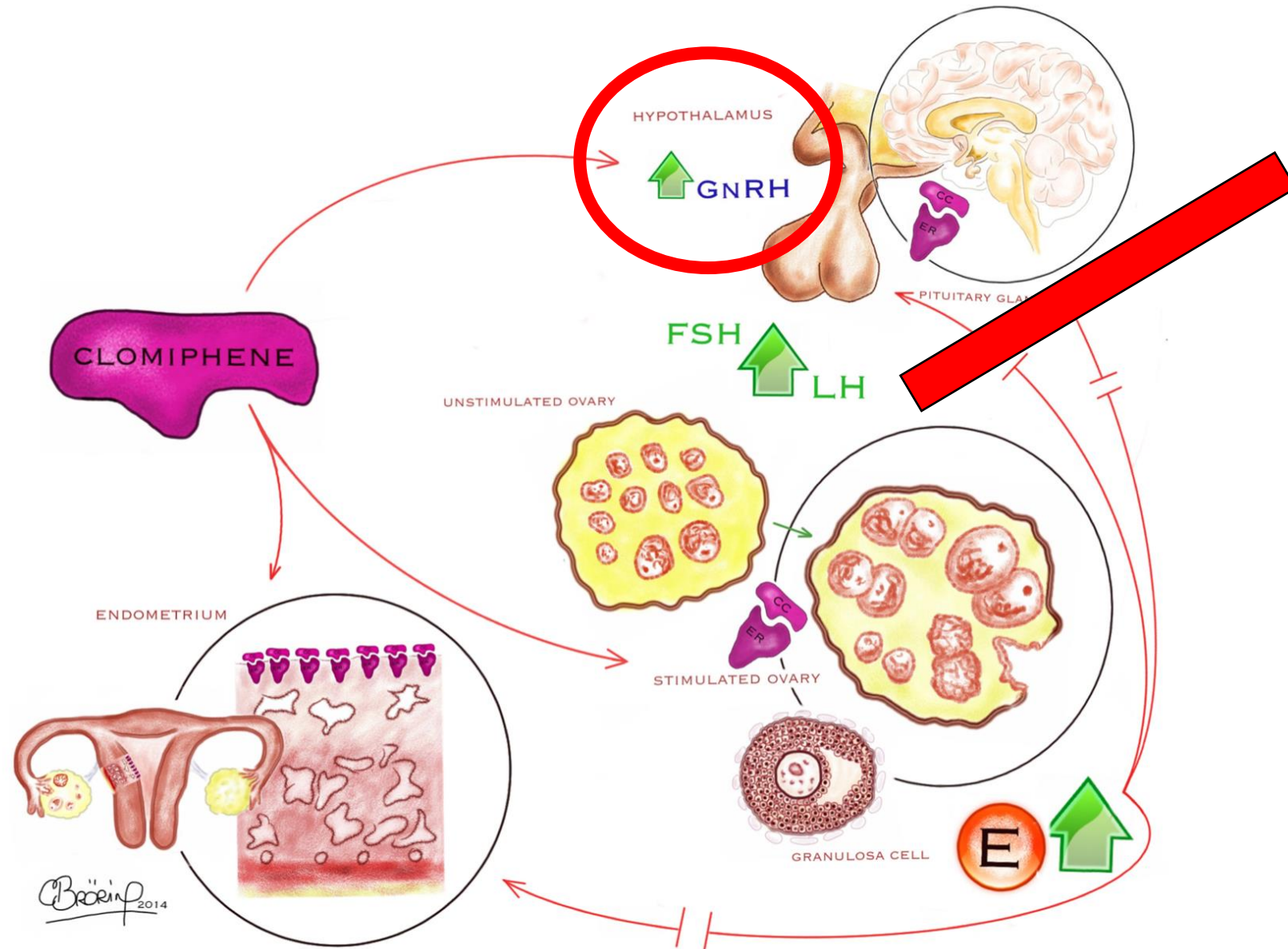
A close-up photograph of a healthcare professional, likely a nurse or doctor, wearing a white lab coat. They are applying a white adhesive bandage to a patient's arm. The patient's arm is visible in the foreground, and the healthcare professional's hands are in the process of securing the bandage. The background is blurred, showing a clinical setting.

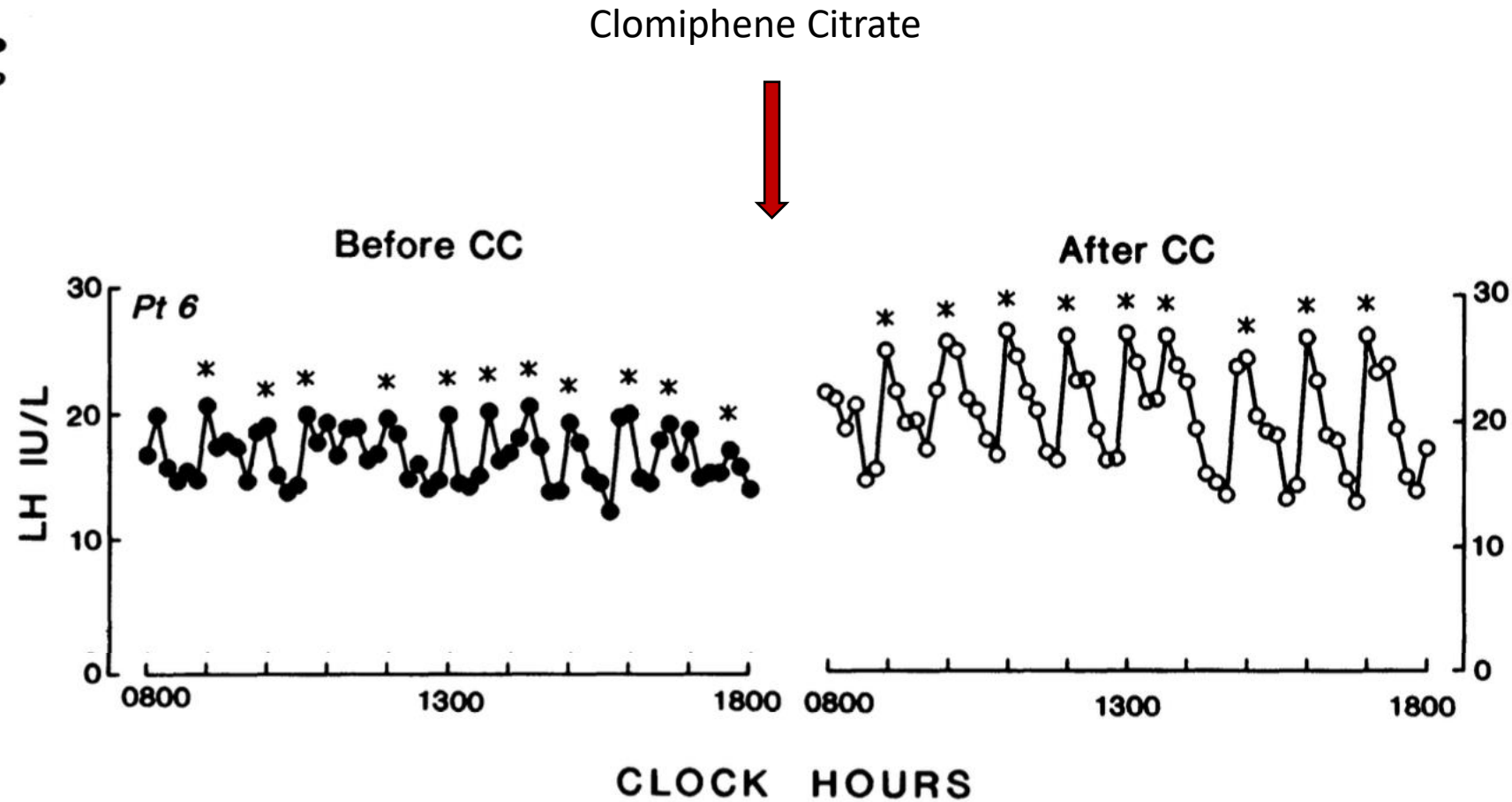
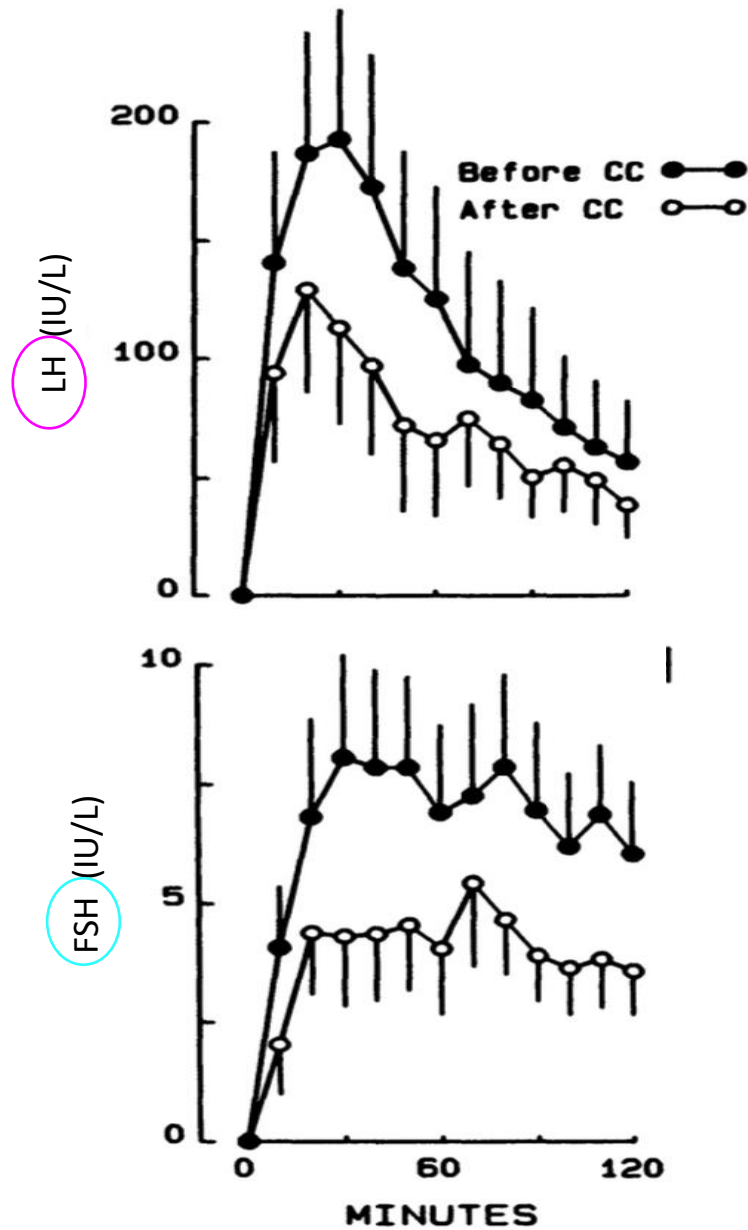
# SERM



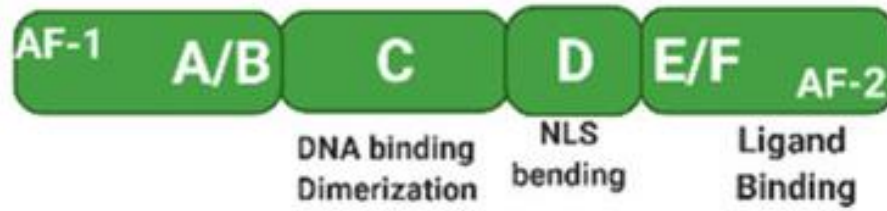


**CLOMIFENE CITRATO**

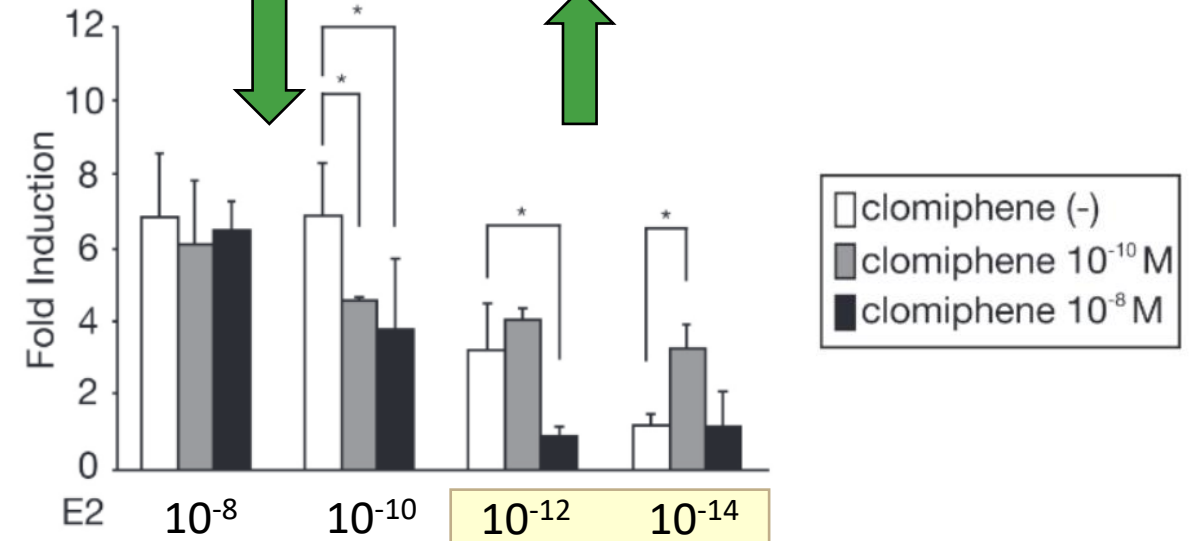




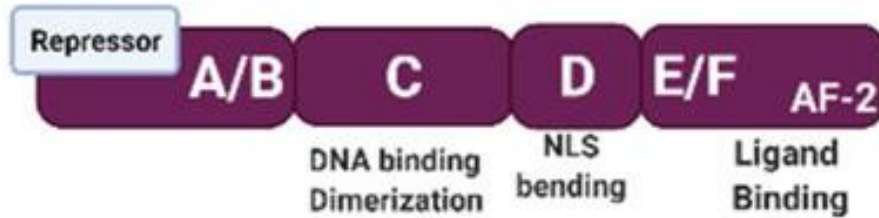
## ER $\alpha$



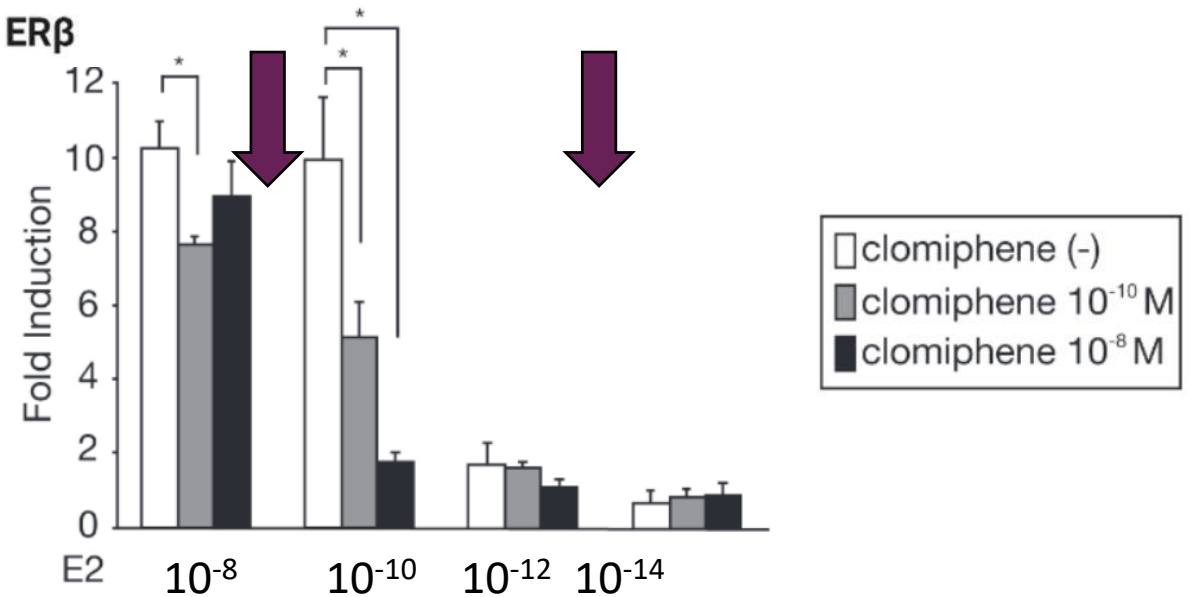
## ER $\alpha$



## ER $\beta$



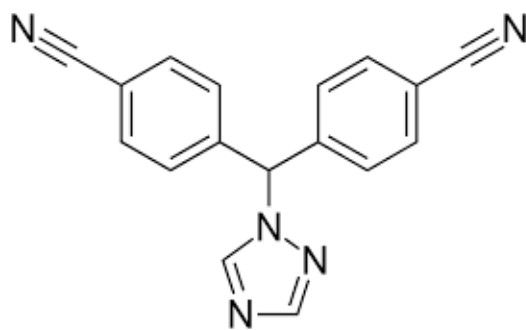
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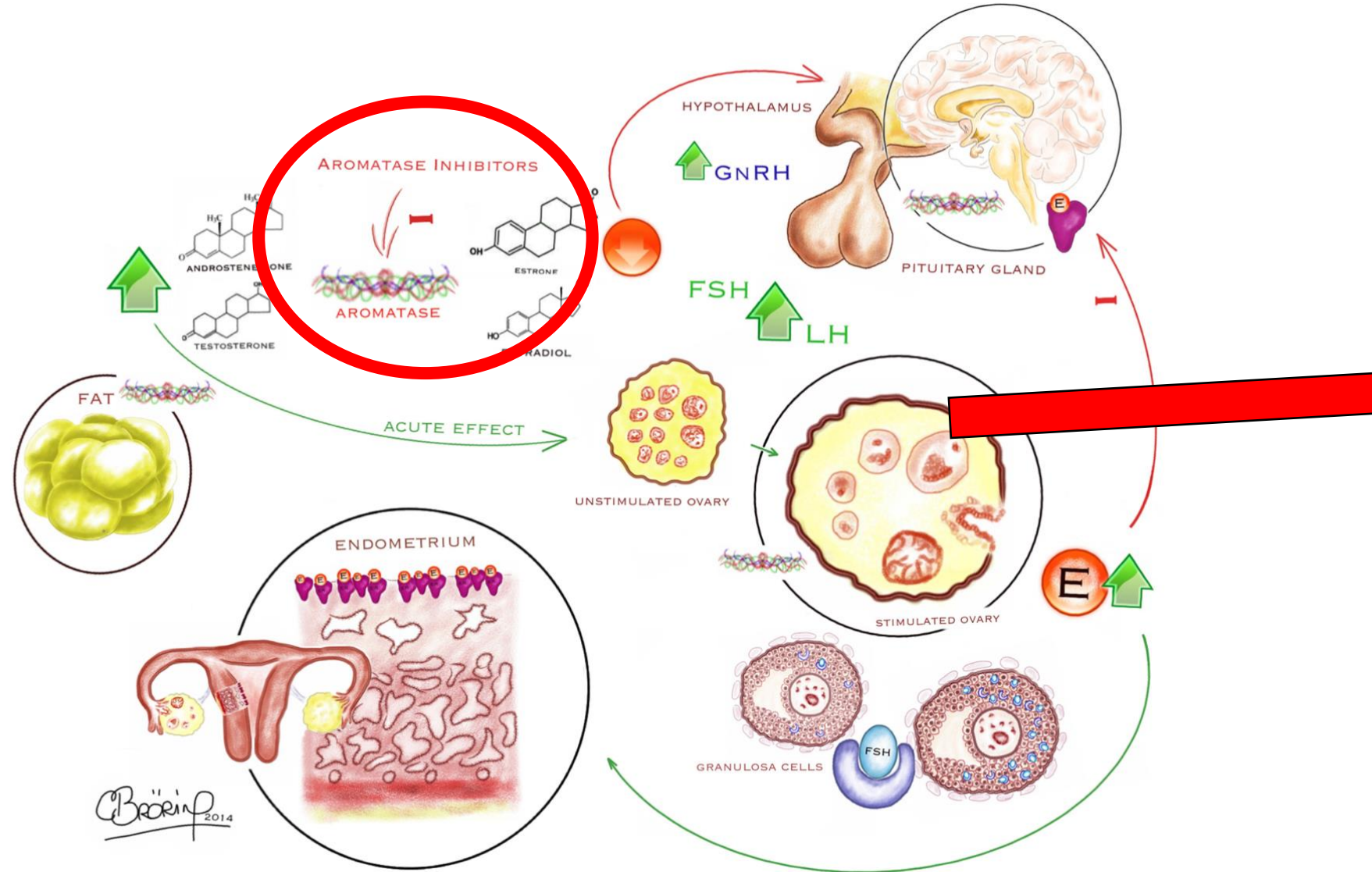




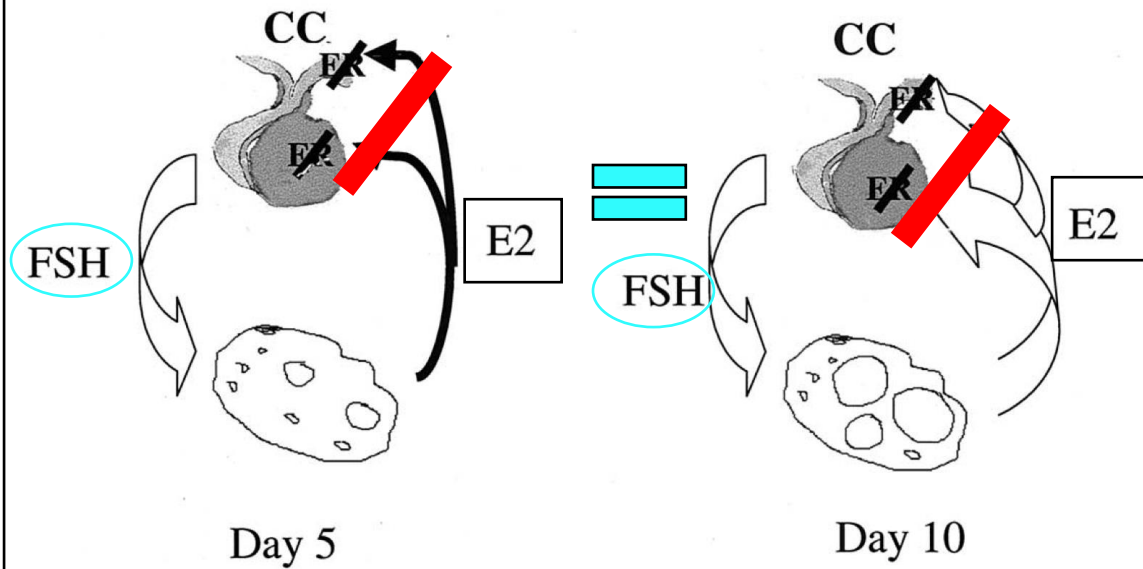
A close-up photograph of a person, likely a healthcare professional, wearing a white lab coat. They are holding a small, white, cylindrical vial with a red cap. The vial is held between their fingers, and the cap is being unscrewed. The background is blurred, showing the person's face and hair.

# INIBITORI AROMATASI

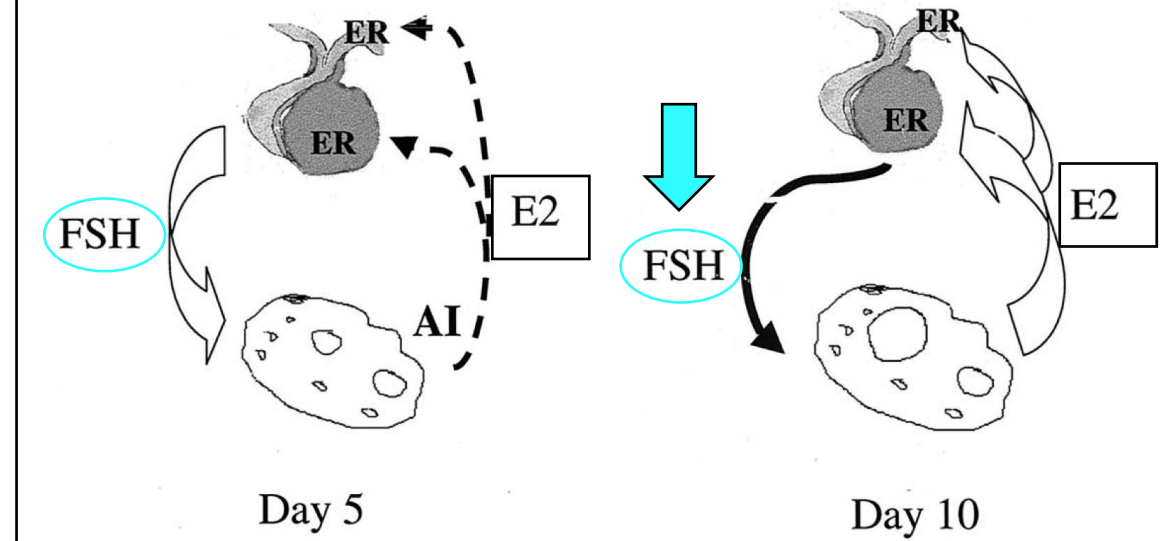
**LETROZOLO**



## Clomiphene Citrate



## Aromatase Inhibitors





- The **ovarian cycle has a very delicate balance**  
mainly regulated by hypothalamic and pituitary functions, neurotransmitters, and hormones.
- Whether for **contraception, hormonal therapy, or fertility treatments**,  
these hormones play significant roles in reproductive health and can **modulare, or disrupt**, the ovarian balance.
- Understanding the impact of exogenous hormones on the ovarian cycle  
paves the way for their **effective** and **safe** use.

*Grazie!*

