



Hormones that Control Male Reproduction

By

Aisha. F. Elsharif

Lames .E. Elsamat

ILOs:

1. Describe male hormone.
2. List of hormone that control male reproduction.
3. What is testosterone.
4. Identify synthesis of testosterone.
5. List identify regulation of testosterone.
6. Outline action of testosterone.

Introduction

Hormones can be defined as signaling molecules that one cell releases into the peripheral fluid or bloodstream, which alter the metabolism of the same or another cell.

Hormones are distinguished from communication mechanisms that depend on direct cell-cell contact through gap junctions.

Hormones are also distinguished from neurotransmitters, although this distinction is somewhat artificial. Neurotransmitters can act as hormones and vice versa.

Male Hormone

At the onset of puberty, the hypothalamus causes the release of FSH and LH into the male system for the first time. FSH enters the testes and stimulates the **Sertoli cells** to begin facilitating spermatogenesis using negative feedback, as illustrated in.

1. Testosterone .
2. Luteinizing hormone(LH) .
3. Follicle-stimulating hormone (FSH) .
4. Estrogens .
5. Growth hormone .
6. Gonadotropic hormones (GnRH) .

LIST OF HORMONES THAT CONTROL MALE REPRODUCTION

Testosterone

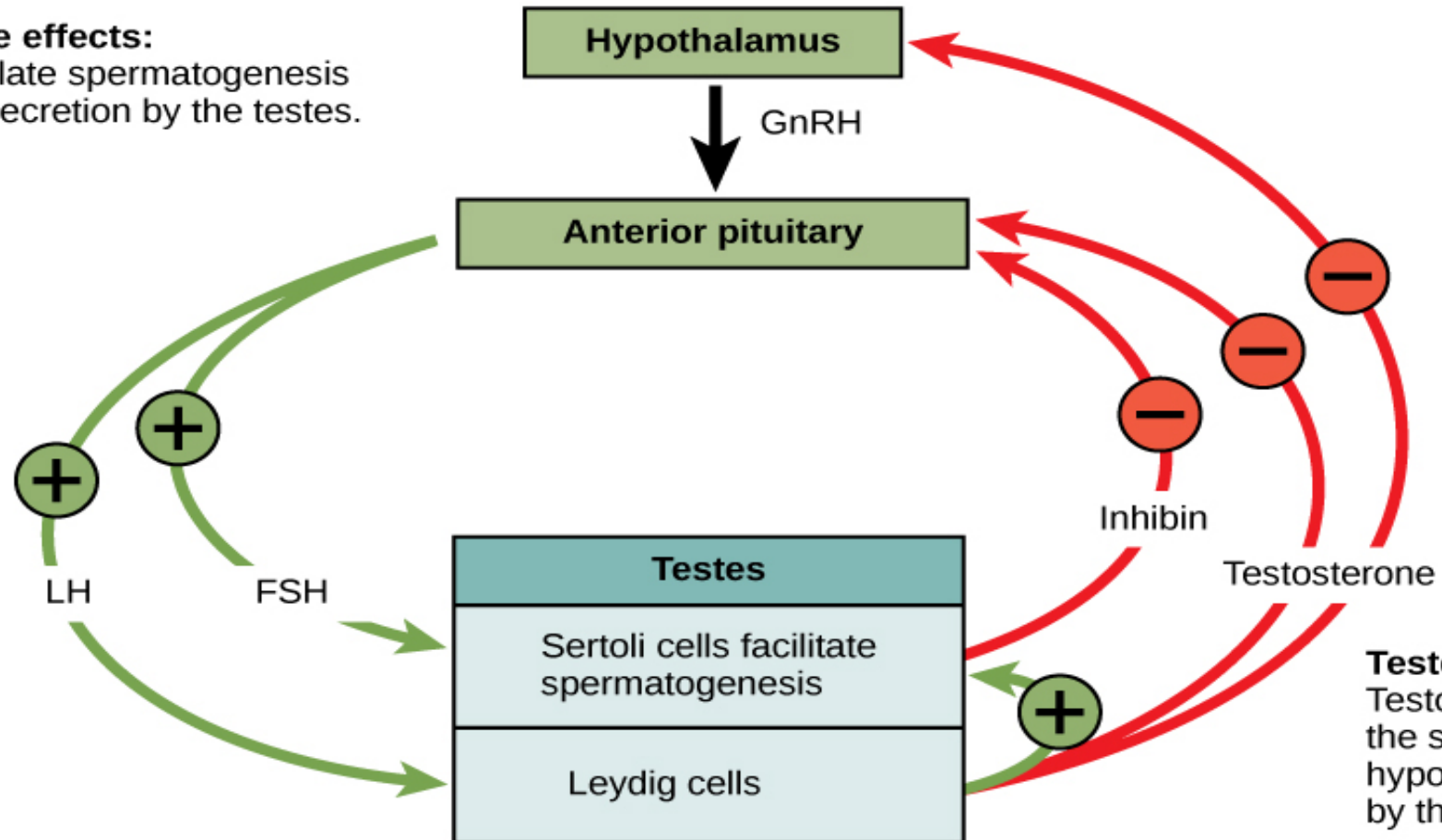
Secreted by the Leydig cells located in the interstitium of the testis is essential for growth and division of the testicular germinal cells, which is the first stage in forming sperm

Synthesis of testosterone

- ▶ Testosterone is the major androgen synthesized and secreted by the Leydig cells.
- ▶ LH (in a parallel action to ACTH in the adrenal cortex) increases testosterone synthesis by stimulating cholesterol desmolase, the first step in the pathway.

Regulation of testosterone

Pituitary hormone effects:
LH and FSH stimulate spermatogenesis and testosterone secretion by the testes.



Action of testosterone

- ✓ Differentiation of epididymis, vas deferens, and seminal vesicles
- ✓ Pubertal growth spurt
- ✓ Cessation of pubertal growth spurt (epiphyseal closure)
- ✓ Libido
- ✓ Spermatogenesis in Sertoli cells
- ✓ Deepening of voice
- ✓ Increased muscle mass
- ✓ Growth of penis and seminal vesicles
- ✓ Negative feedback on anterior pituitary

Summary

- Hormones are also distinguished from neurotransmitters.
- Hormones that control male reproduction e.g. Testosterone, GnRH, LH AND FSH.
- Testosterone is the major androgen synthesized and secreted by the Leydig cells.
- One of action of testosterone negative feedback on anterior pituitary.

References

- ▶ <https://courses.lumenlearning.com/boundless-biology/chapter/hormonal-control-of-human-reproduction/>
- ▶ BRS Physiology 5th ed



THANK YOU
FOR
LISTENING
to
to PRESENTATION