Testes

The testes are the male gonads. They are important components of both the reproductive and endocrine system. The primary functions of the testes are spermatogenesis and production of androgens. Follicle-stimulating hormone (FSH) will stimulate the Sertoli cells, which are located in the seminiferous tubule. Sertoli cells are commonly referred to as “nurse cells” because they nourish and help to develop sperm. The Sertoli cells also secrete inhibin, an enzyme that downregulates FSH synthesis and prevents FSH secretion. Inhibin production by the Sertoli cells is stimulated by androgens. Leydig cells are also found in the testes, and are stimulated by luteinizing hormone (LH). The Leydig cells primarily secrete testosterone, which is responsible for stimulating sexual differentiation of male genitalia in the fetus. Testosterone is also important in maintaining male secondary sex characteristics during and after puberty.

PLAY PICMONIC

Characteristics

FSH Stimulates Sertoli Cells

Fish slapping Sperm-trolley

Sertoli cells have FSH-receptors on their membranes and are activated by FSH (follicle-stimulating hormone). Sertoli cells nourish sperm and are sometimes referred to as "nurse cells."

Inhibin B Release

Inhibiting-chains on (B) Bee Released

Inhibin B is secreted by Sertoli cells and functions to inhibit FSH synthesis and secretion. Androgens and FSH stimulate inhibin B production. Production of Inhibin B in response to FSH constitutes a negative feedback loop.

LH Stimulates Leydig Cells

Luge hitting Ladybug

Luteinizing hormone (LH) stimulates Leydig cells to produce testosterone. It does this through the upregulation of the enzyme cholesterol desmolase. LH shares the same alpha-subunit as TSH, FSH, and HCG. Limited cross reactivity between these hormones has been observed.

Leydig Cells Secrete Testosterone

Ladybug releases Testes-man

Leydig cells secrete testosterone in response to LH stimulation.

Testosterone Causes Male Development

Manly Attributes on Testes-man

Testosterone stimulates the maturation of male sex organs at birth, and also plays a role in maintaining secondary sexual characteristics during and after puberty.