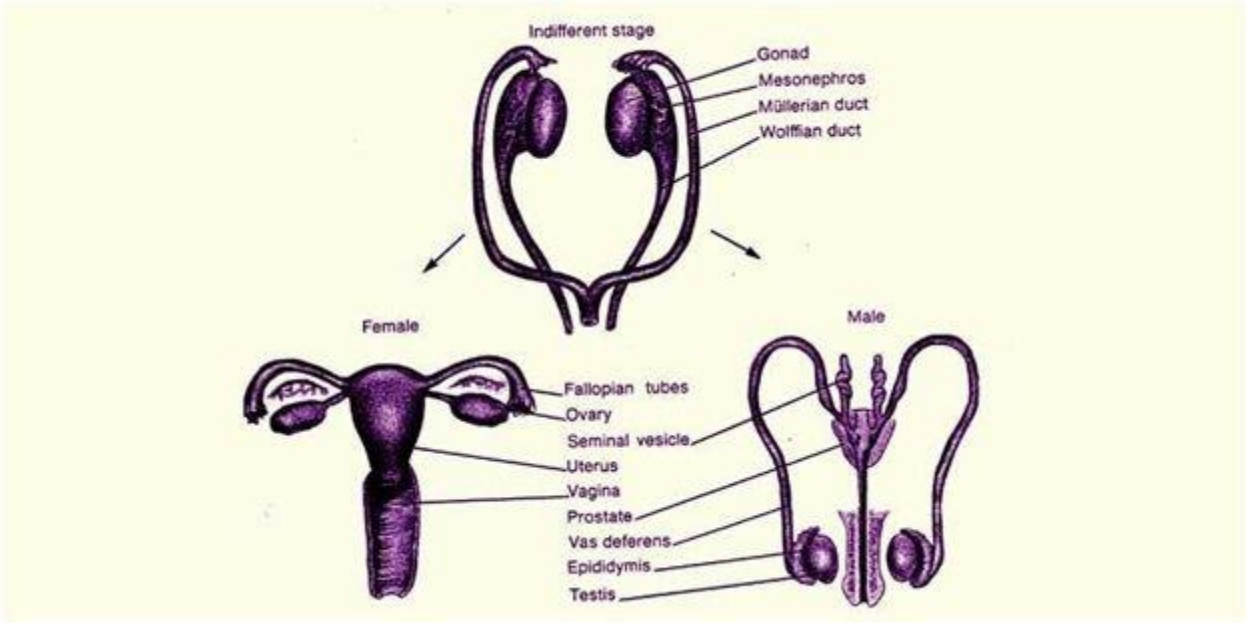
Gonads



Gonads are the female and male reproductive organs. Testes are the male gonads in males and ovaries in females. These organs of reproductive organs are essential for sexual reproduction since they are responsible for the production of male and female gametes. Gonads are also responsible for producing sex hormones required for the development and growth of primary and secondary reproductive structures organs.

Gonads: Sex Hormones

Being a component of Endocrine system, both male and female gonads generate sex hormones. The sex hormones are steroid hormones and can pass through the cell membrane of their target cells to influence expansion of genes within the cells. Gonadal hormone is regulated by hormones secreted by the pituitary gland in the brain. Hormones that are responsible for stimulating the gonads to produce sex hormones are called as gonadotropins. The gonadotropins called luteinizing hormone (LH) and follicle-stimulating hormone (FSH) are secreted by pituitary.

The protein hormones influence reproductive organs in many ways.

The tests are stimulated by the LH to secrete the sex hormone testosterone and ovaries to secrete estrogens and progesterone. The FSH is involved in the maturation of ovarian follicles (sacs that contain ova) in females and production of sperm in males.

Female Gonad Hormones

The major hormones of the ovaries are progesterone and estrogens.

Estrogens – It is a group of female sex hormones essential for reproduction and the development of female reproductive system. Estrogens are responsible for maturation and growth of the

vagina and uterus, widening of pelvis, breast and the uterus changes during the menstrual cycle, and increasing growth of hairs on the body.

Progesterone – These are the hormones whose function is to prepare the uterus for conception, regulating changes in uterus during the Menstrual cycle, ovulation aids, and stimulating gland development for the production of milk during pregnancy.

Male Gonad Hormones

Androgens are hormones that majorly influence the development of the male reproductive system.

Testosterone is responsible and essential for increased bone and muscle, growth of body hair, developing broader shoulder, voice deepening and growth of the penis.

Androstenedione – These are the hormones that act as a precursor to estrogens and testosterone.

Inhibin – These hormones inhibit the release of FSH and thought to be involved in sperm cell regulation and development.