SEX HORMNES

[DEPTH OF BIOLOGY]

Ovaries (Female reproductive organ)

- There are two ovaries found in a female in the lower part of the abdomen.
- Ovary is composed of ovarian follicles and stroma tissues. [DEPTH OF BIOLOGY]
- The stroma tissues and the Graafian follicle cells produce hormones known as estrogens the most important of which is estradiol (steroid).

[DEPTH OF BIOLOGY]

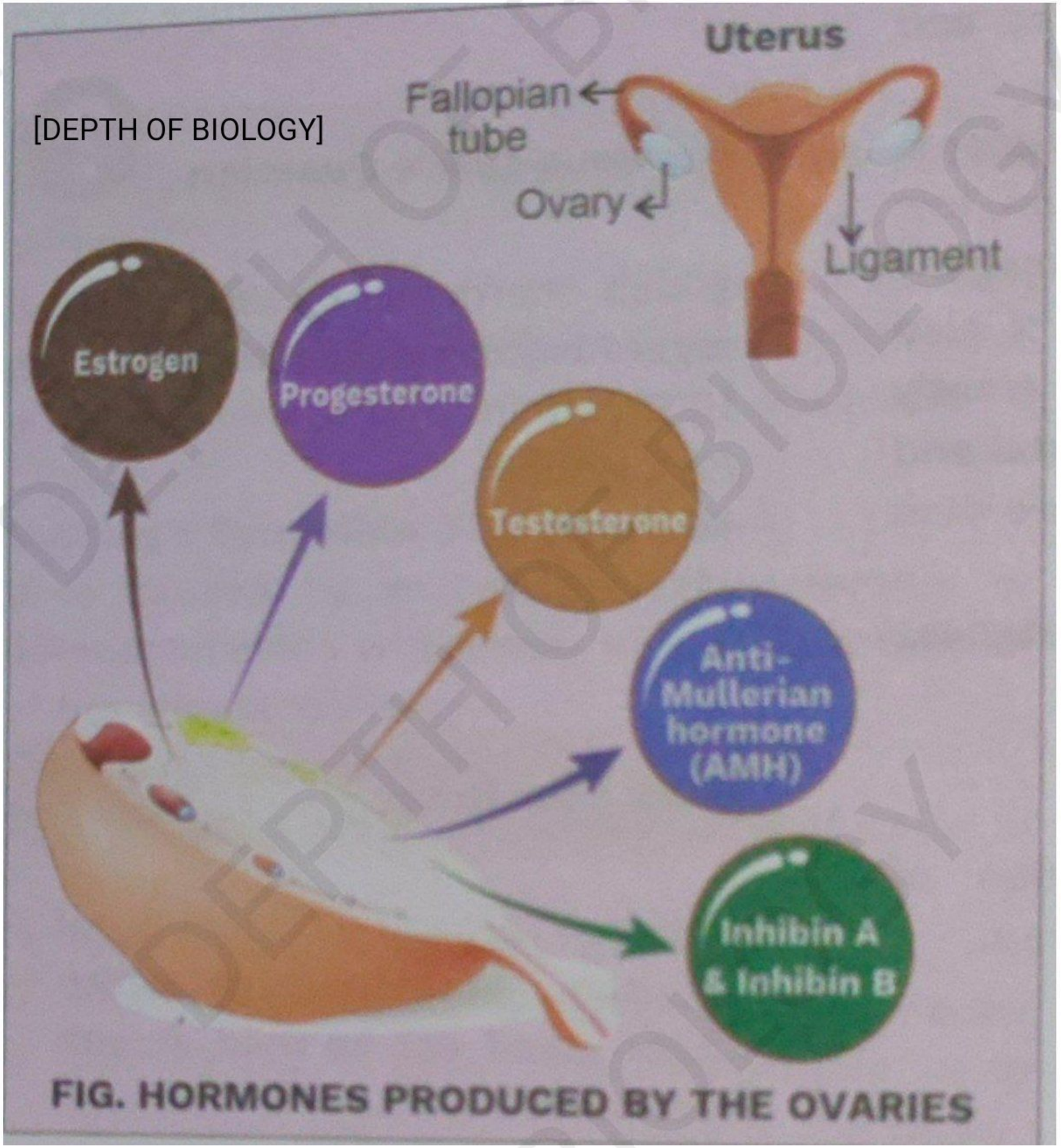

FIG. HORMONES PRODUCED BY THE OVARIES

[DEPTH OF BIOLOGY]

Estrogen Hormone

- It is synthesised mainly by growing ovarian follicles.
- It helps in producing secondary female characters in female (at puberty):
  - Development of breast
  - Development of pubic hair
  - Deposition of fat on the thighs
  - Enlargement of uterus and vagina
  - Periodic bleeding (menstruation)

- It is produced in great quantity before ovulation so as to prepare the uterine wall for the possible reception of the fertilised egg. [DEPTH OF BIOLOGY]

Progesterone

- It is secreted by corpus luteum (leftover follicular cells after ovulation). [DEPTH OF BIOLOGY]
- Progesterone avoids the menstruation.
- The mammary glands enlarge (formation of alveoli) and other necessary changes associated with pregnancy and milk secretion.
- **Medical Value of Progesterone.** It is injected to prevent threatened abortion. [DEPTH OF BIOLOGY]

Note:

Corpus luteum (Temporary Endocrine Gland)

After ovulation, the ruptured follicle shrinks and becomes a small body, the corpus luteum (yellow in colour). It secretes another female hormone, progesterone which continues to prepare the uterus to receive the egg.

If the egg is not fertilised, the corpus luteum begins to degenerate and monthly bleeding (menstruation) occurs.

Testes (Male Reproductive Organ)

- The testes are two oval glandular organs suspended in a cutaneous pouch called the scrotal sac (outside abdomen).
- Testes perform dual functions as a primary sex organ as well as an endocrine gland.
- The temperature of the scrotal sac remains 2°C lower than the body temperature. This lower temperature is necessary for testicular functions i.e., production of sperms and male androgens hormone.
- The interstitial cells **(Leydig cells)** of the testis produce the male hormones androgens (steroids) the most important of which is testosterone.

Testosterone

- This hormone brings about the secondary masculine (male) sex characters such as–
  - Enlargement of the scrotum and penis
  - Broadening of the shoulders
  - Deepening of the voice
  - Growth of the pubic hair, growth of moustache and beard etc.