|  |  |  |
| --- | --- | --- |
| Hormone | Produced | Role |
| FSH (follicle stimulating hormone) | Pituitary gland | Causes an egg to mature in an ovary. Stimulates the ovaries to release oestrogen |
| Oestrogen | Ovaries | Stops FSH being produced (so that only one egg matures in a cycle). Repairs, thickens and maintains the uterus lining. Stimulates the pituitary gland to release LH |
| LH (Luteinising hormone) | Pituitary gland | Triggers ovulation (the release of a mature egg) |
| Progesterone | Ovaries | Maintains the lining of the uterus during the middle part of the menstrual cycle and during pregnancy |



**Hormones in human reproduction**

The endocrine system is composed of glands which secrete chemicals called hormones directly into the bloodstream. The blood carries the hormone to a target organ where it produces an effect. Compared to the nervous system the effects are slower but act for longer.

**Human endocrine system**

The nervous system enables humans to react to their surrounding and to coordinate their behaviour.

**The nervous system**

Homeostasis is the regulation of the internal conditions of a cell or organism to maintain optimum conditions for function in response to internal and external changes.

**Homeostasis**

**BU5 – Homeostasis and Response (Trilogy)**



Things your body needs to control:

1. Blood glucose concentration
2. Body temperature
3. Water levels

**Negative feedback (HT)**

**Controlling blood glucose concentration**



**Contraceptives**

Hormonal – Oral, injection

Non-hormonal – barrier method (condom), intrauterine devices, spermicidal agents, abstaining from intercourse, surgical method of sterilisation



**Treating infertility (HT)**

Hormones can be used to treat infertility as used in IVF

1. FSH and LH stimulate the maturation of eggs
2. Eggs collected from mother and fertilised by sperm from father in a lab
3. Fertilised eggs develop into embryos
4. When they are tiny balls of cells, one or two embryos are inserted into the mother uterus

Controlling blood glucose concentration is monitored and controlled by the pancreas.

Reflexes are automatic and rapid and are important for protection. They do not involve the conscious part of the brain.