

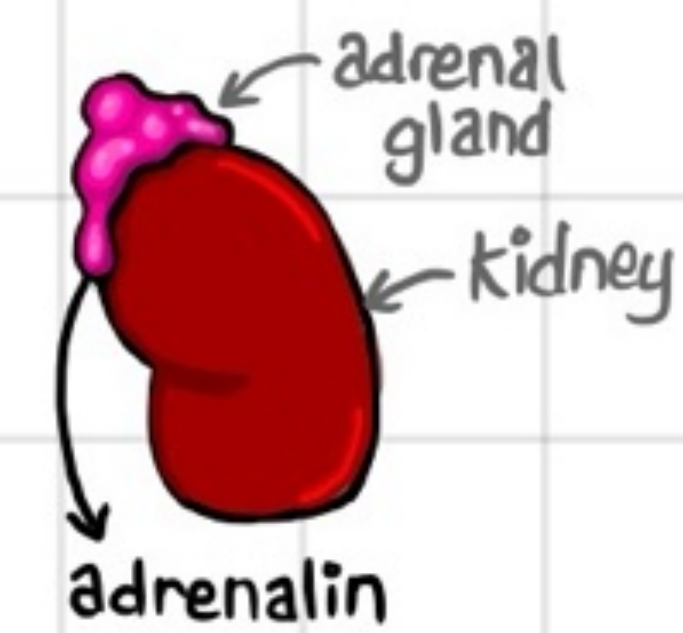
007B



A **hormone** released by the adrenal glands. It is released in response to a sudden stressful situation (fight or flight)

Q. Explain how adrenaline prepares the body for action.

005B



Site of adrenaline production.
Located on top of kidneys

Q. What response do adrenal glands trigger.

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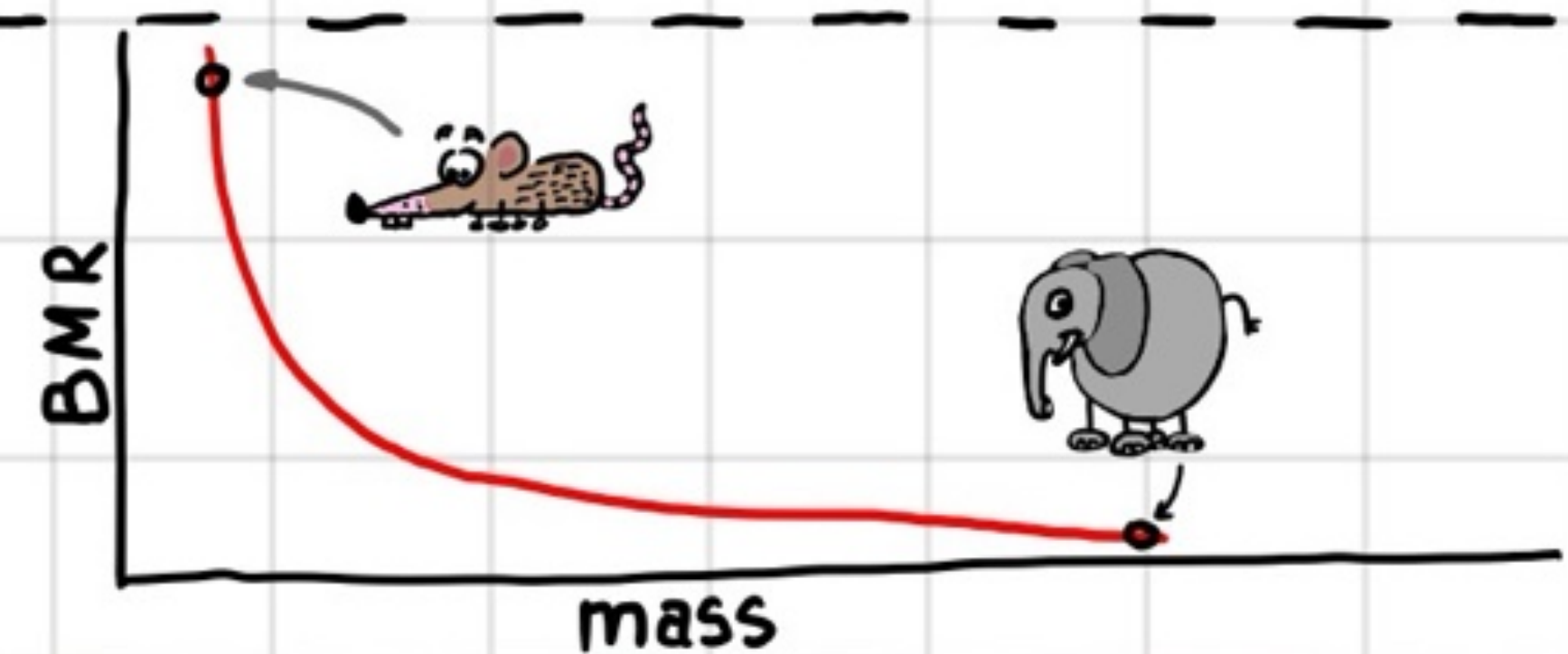
037B



A Stimulant found in coffee which speeds up reaction times.

Q. A Student measures their reaction time on a Computer. Their times are 242ms, 239ms, 240ms, 236ms and 101ms. Calculate their average time

027B



The rate of chemical reactions in the body at rest.

Q. Explain how the thyroid and pituitary glands regulate the basal metabolic rate.

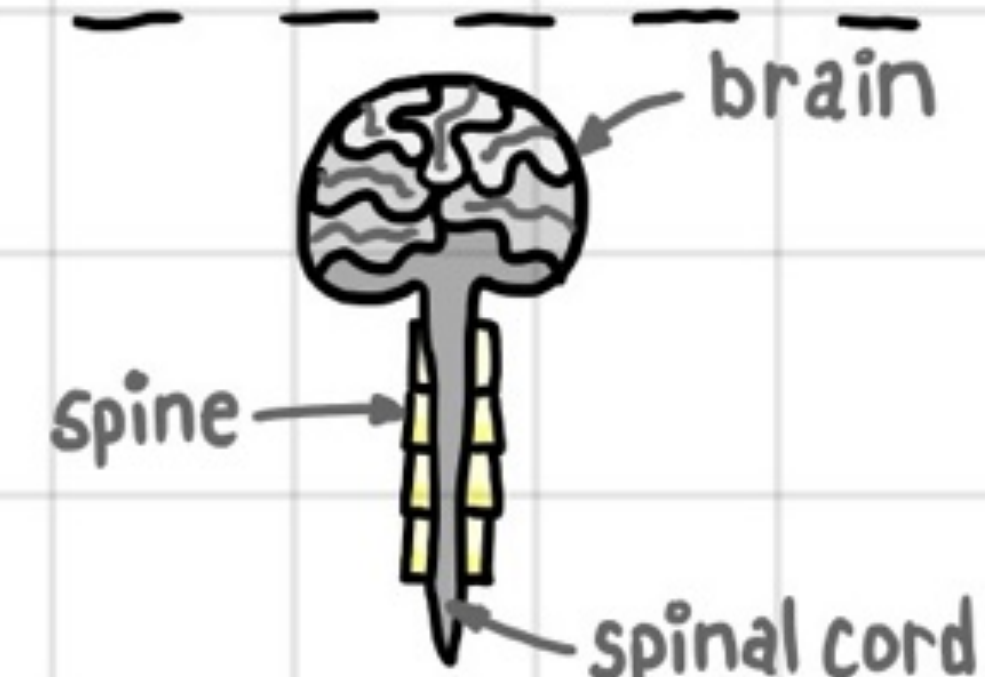
076B



Muscles and glands which respond to impulses from the CNS and effect a change
Muscles contract and glands release hormones

Q. Explain how a named effector can control the internal environment using negative feedback.

046B



The part of the nervous system that coordinates responses.

Q. Which neurones:

- bring information into the CNS
- take information from the CNS

Adrenal glands

005B

Adrenaline

007B

Basal metabolic rate

027B

Caffeine

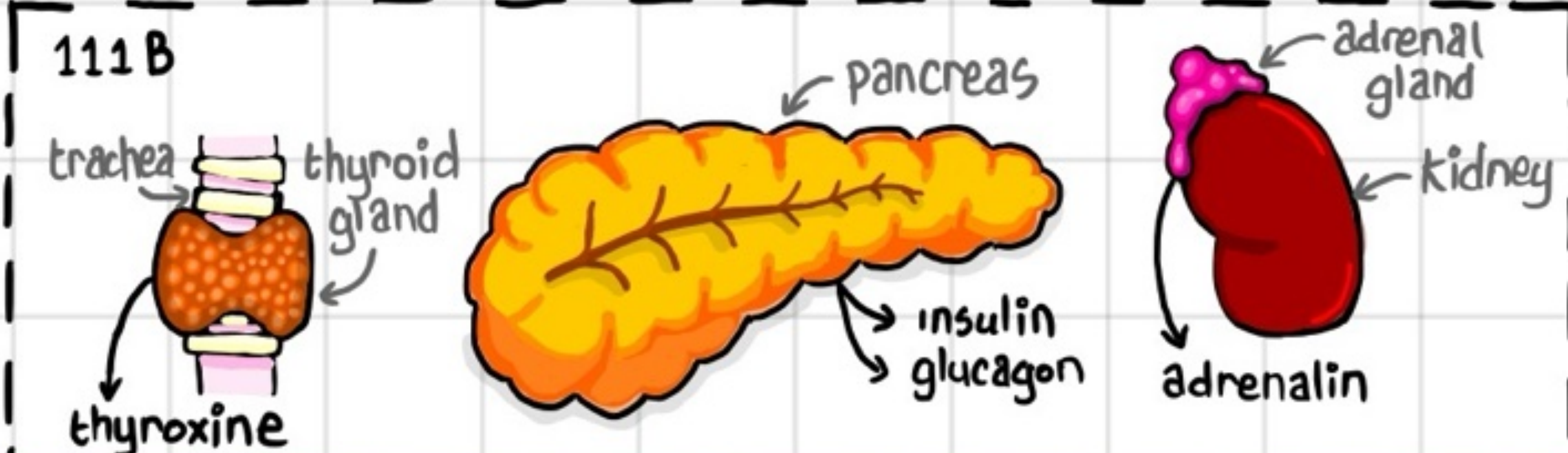
037B

Central nervous system

046B

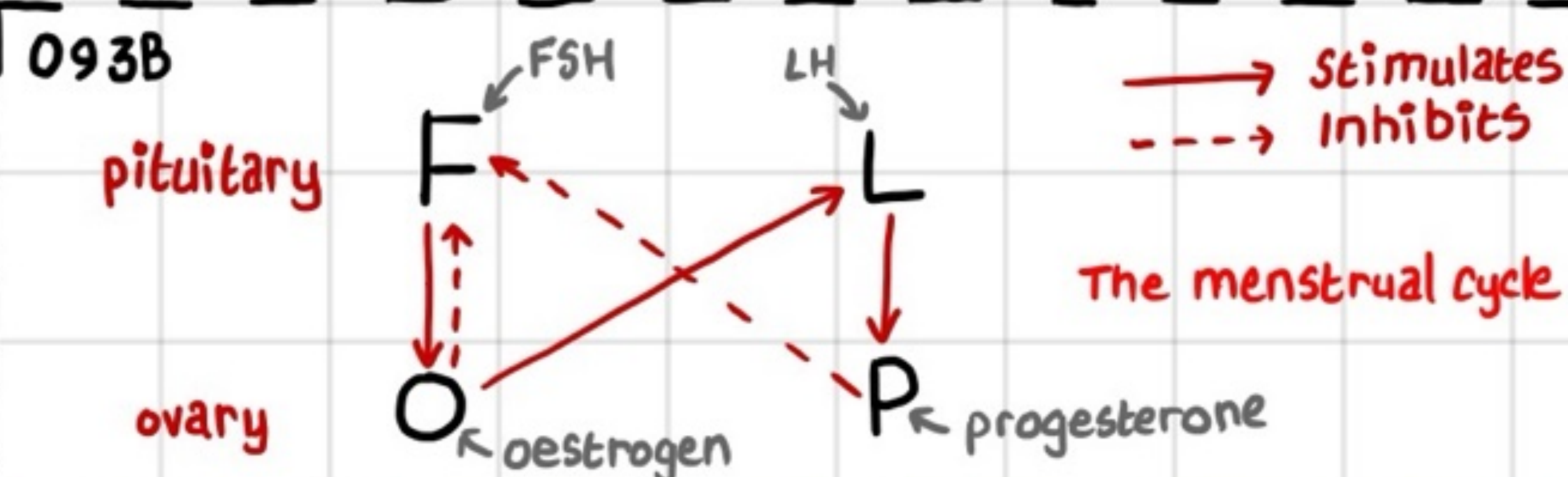
Effectors

076B



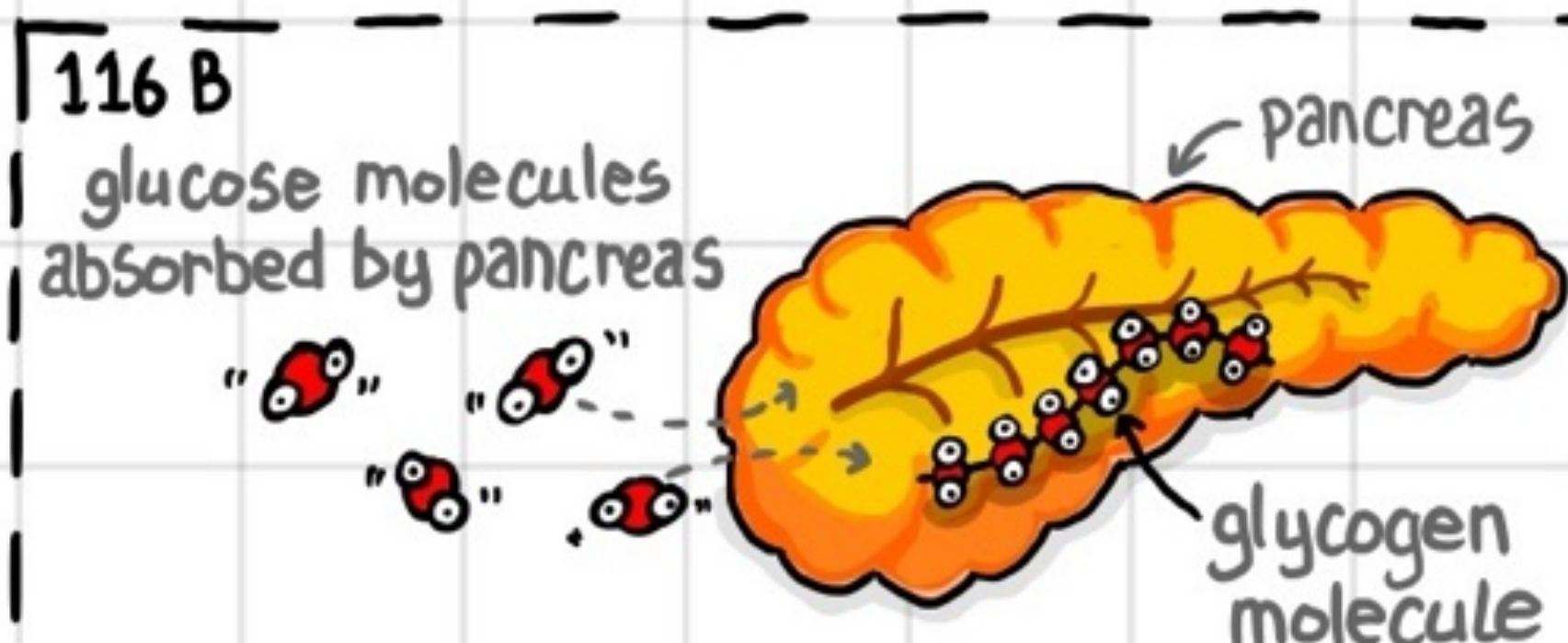
An organ in the body that synthesises and releases chemicals (often hormones) into the blood.

Q. Name three hormones and the glands which produce them.



A hormone released at the start of the menstrual cycle by the pituitary gland. It causes an egg to mature from a follicle.

Q. Explain how hormones prevent more than one egg being released every cycle.



A complex carbohydrate made from sub units of glucose. It is stored in the liver and plays an important role in maintaining blood sugar levels.

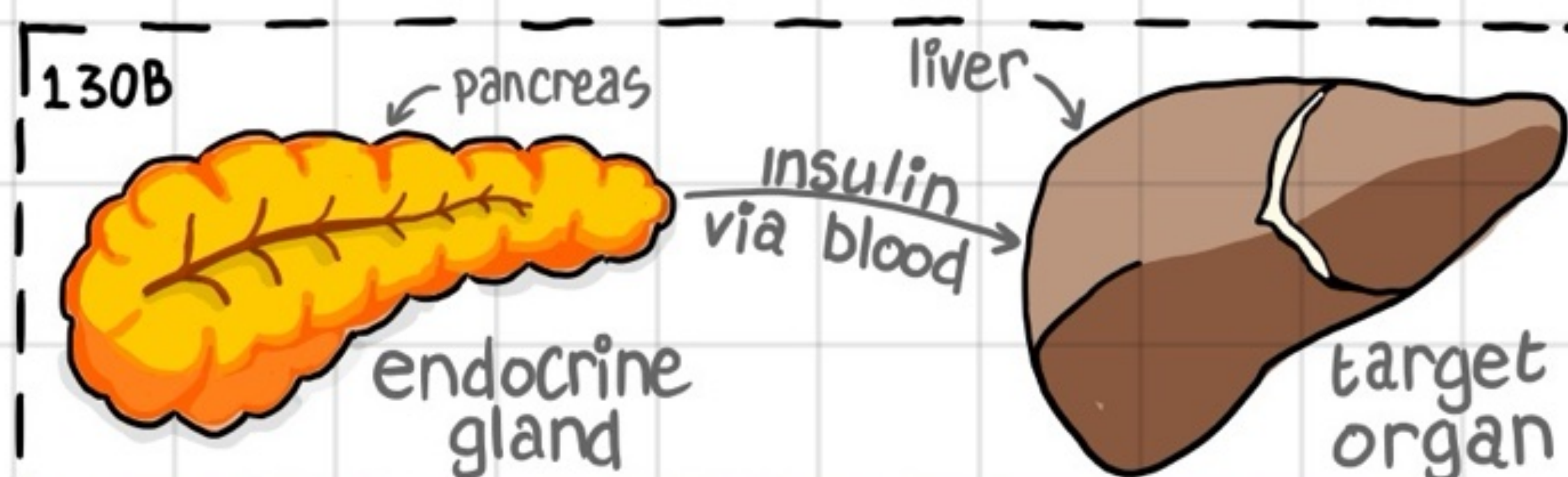
Q. Name 3 carbohydrates made from subunits of glucose.



A hormone released when the pancreas detects low blood sugar levels. This hormone causes the liver to breakdown glycogen into glucose

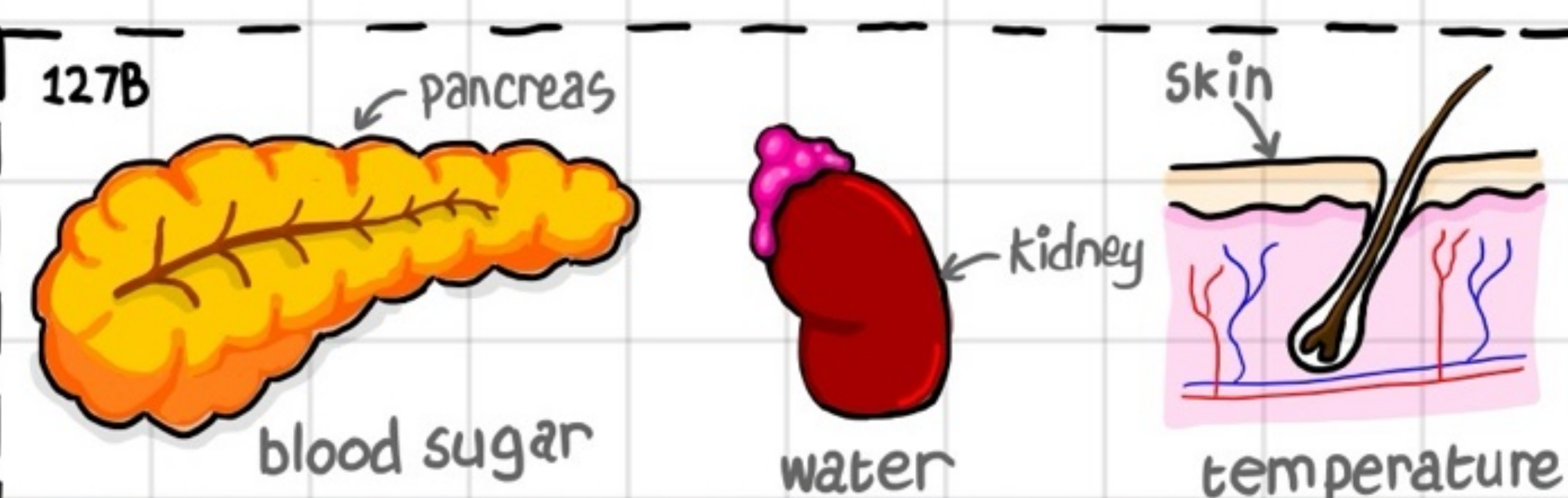
Q. Explain how negative feedback works to keep blood sugar within normal levels.

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A chemical released into the blood which causes a specific target organ to produce an effect.

Q. What are the differences between the actions of nerves and hormones?



The regulation by the body to maintain optimum conditions for enzyme action and all cell functions.

Q. Why does the body need to maintain a constant internal environment?

Folicle stimulating hormone (FSH)

093B

Glands

111B

Glucagon

113B

Glycogen

116B

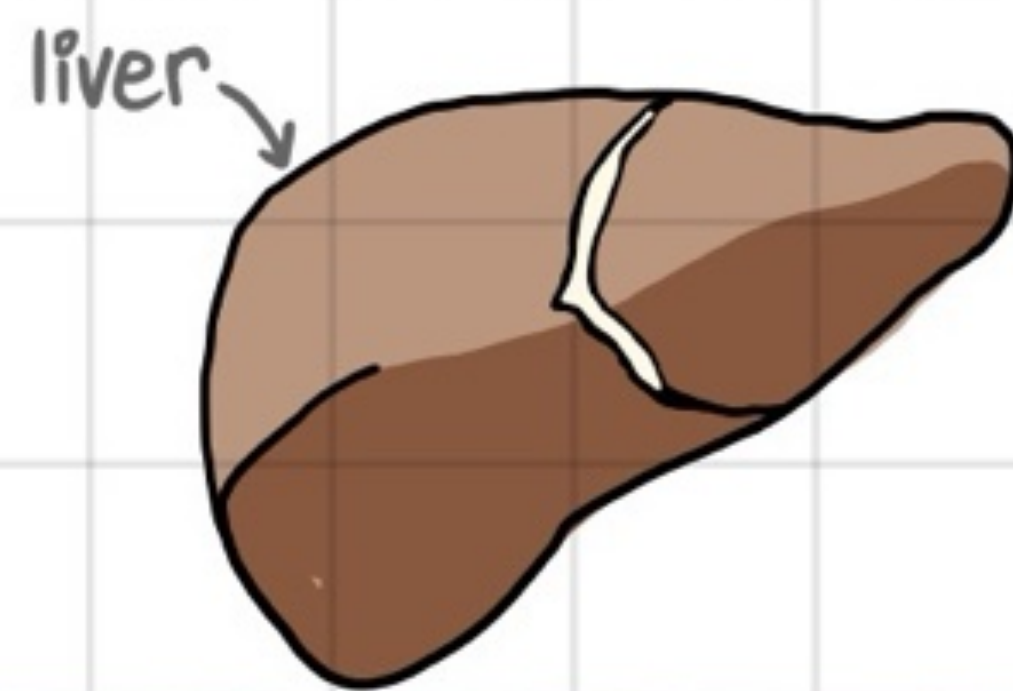
Homeostasis

127B

Hormones

130B

143B



An large organ involved in digestion and the control of blood sugar levels. This organ is the site of bile production.

Q. Describe the role of the liver in the control of blood sugar levels.

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132B

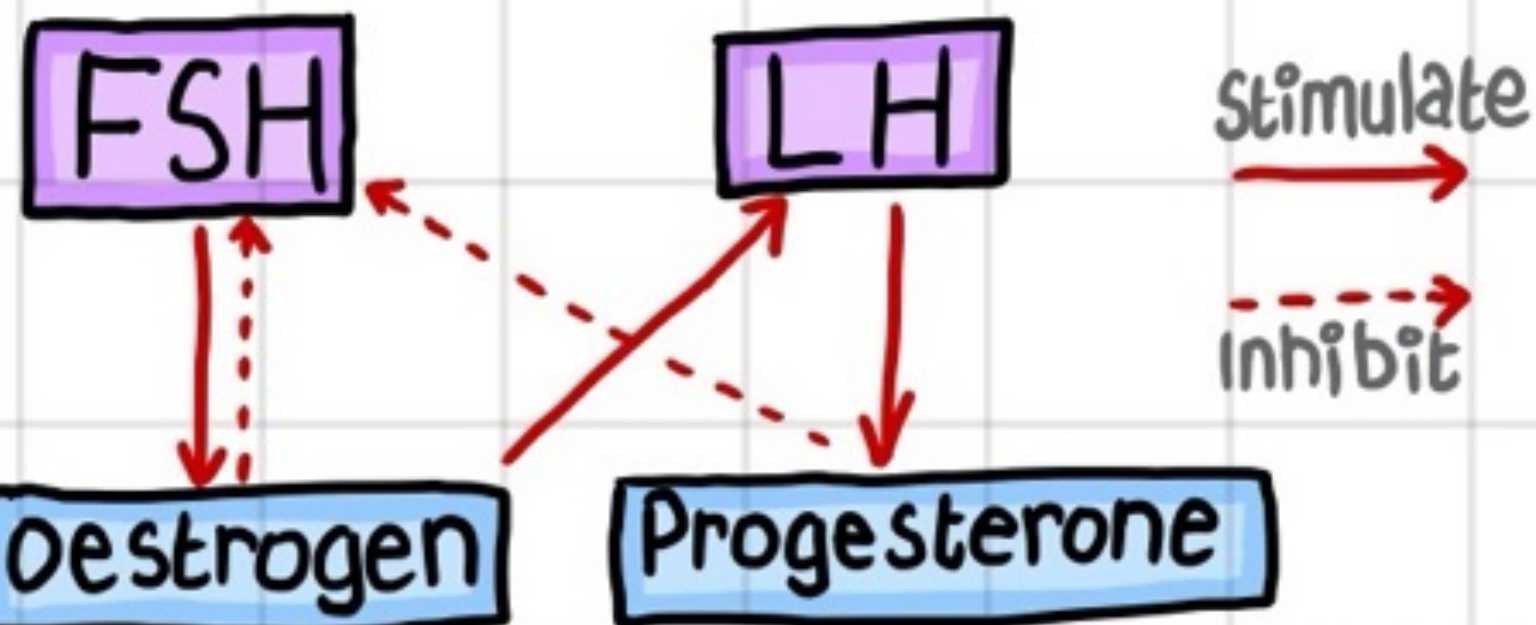


A hormone released when the pancreas detects high blood sugar levels. This hormone causes the liver to convert glucose into glycogen.

Q. Explain the differences between type I and type II diabetes.

152B

pituitary



ovary

The monthly release of an egg controlled by hormones released from the pituitary and ovaries.

Q. List the four hormones released in the menstrual cycle in the order they are produced.

146B

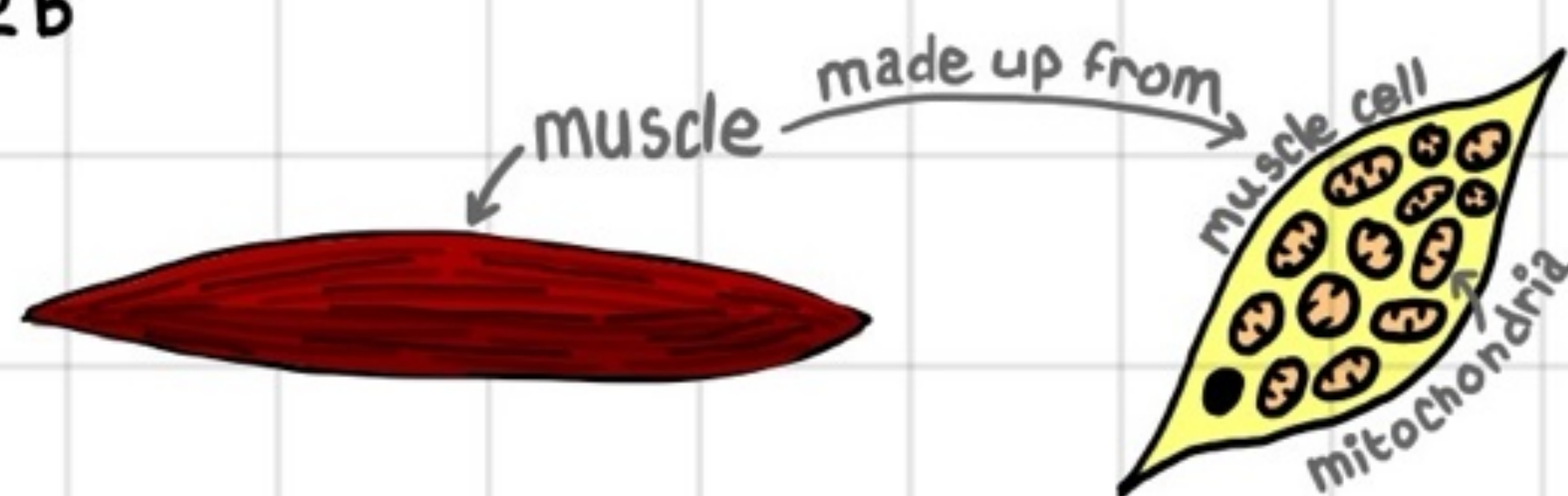
LH levels

1 4 14 28 days

A hormone produced by the pituitary which stimulates the release of an egg on day 14 of the menstrual cycle (ovulation).

Q. Describe the effects of progesterone and oestrogen on LH levels during the menstrual cycle.

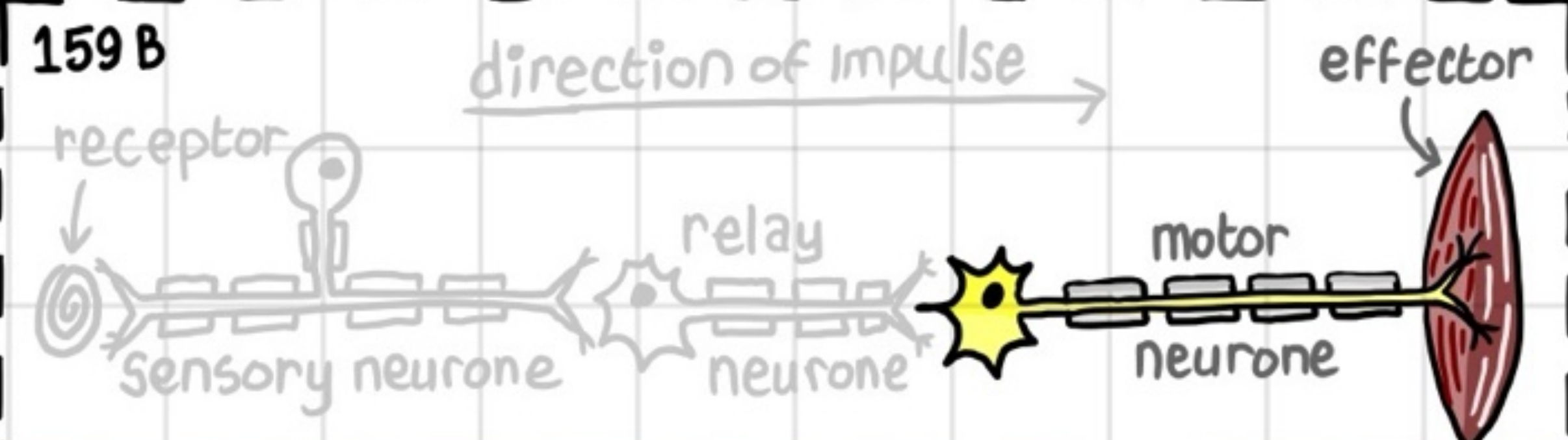
162B



A Cell adapted to contract quickly. The cells contain large numbers of mitochondria which provide energy for contraction.

Q. Describe the similarities and differences between a red blood cell and a muscle cell.

159B



Neurones which carry impulses from the CNS to the effector.

Q. Name two types of effectors which respond to the motor neurone.

Insulin

132B

Liver

143B

Luteinising hormone (LH)

146B

Menstrual cycle

152B

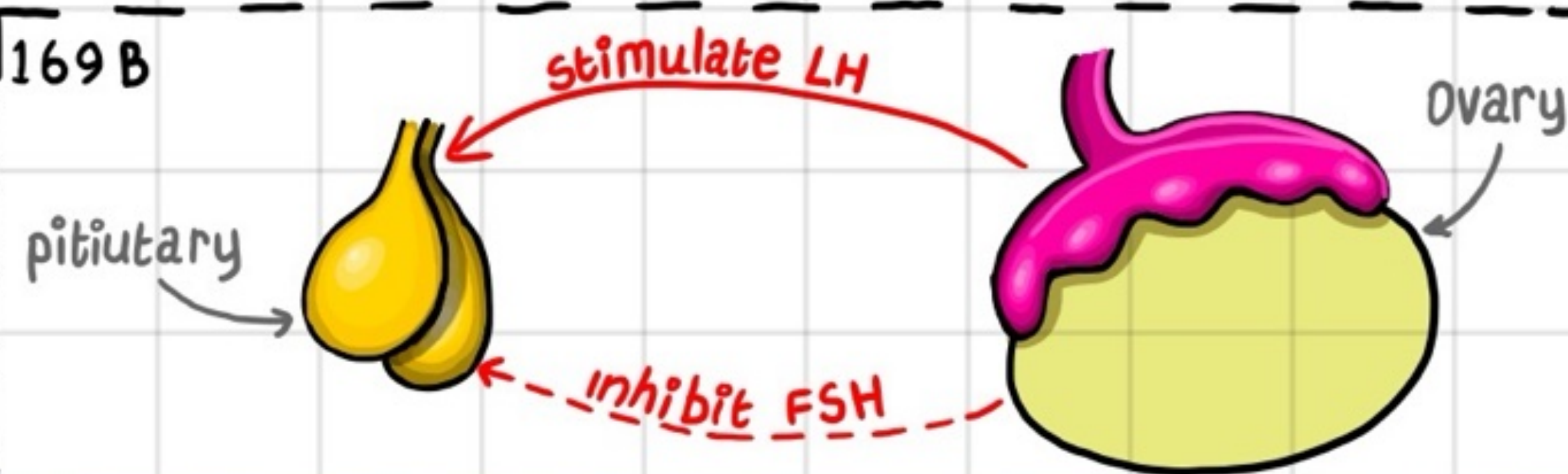
Motor neurone

159B

Muscle cells

162B

169 B



A hormone produced by the ovaries which stimulates LH production and inhibits FSH production. It also causes the lining of the uterus to grow.

Q. Explain the role of oestrogen in the menstrual cycle.

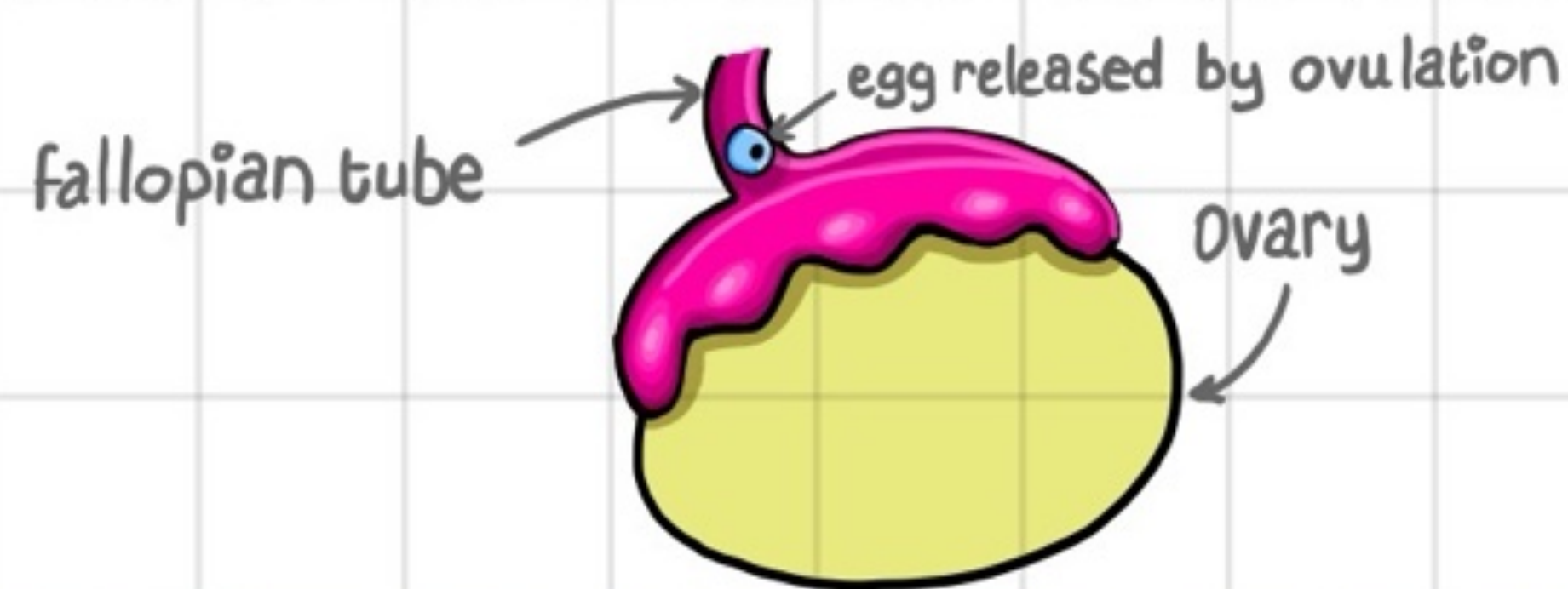
166 B



A regulatory mechanism where a change in a variable (e.g. blood sugar) triggers a response that counteracts the initial change.

Q. Explain how the body regulates body temperature.

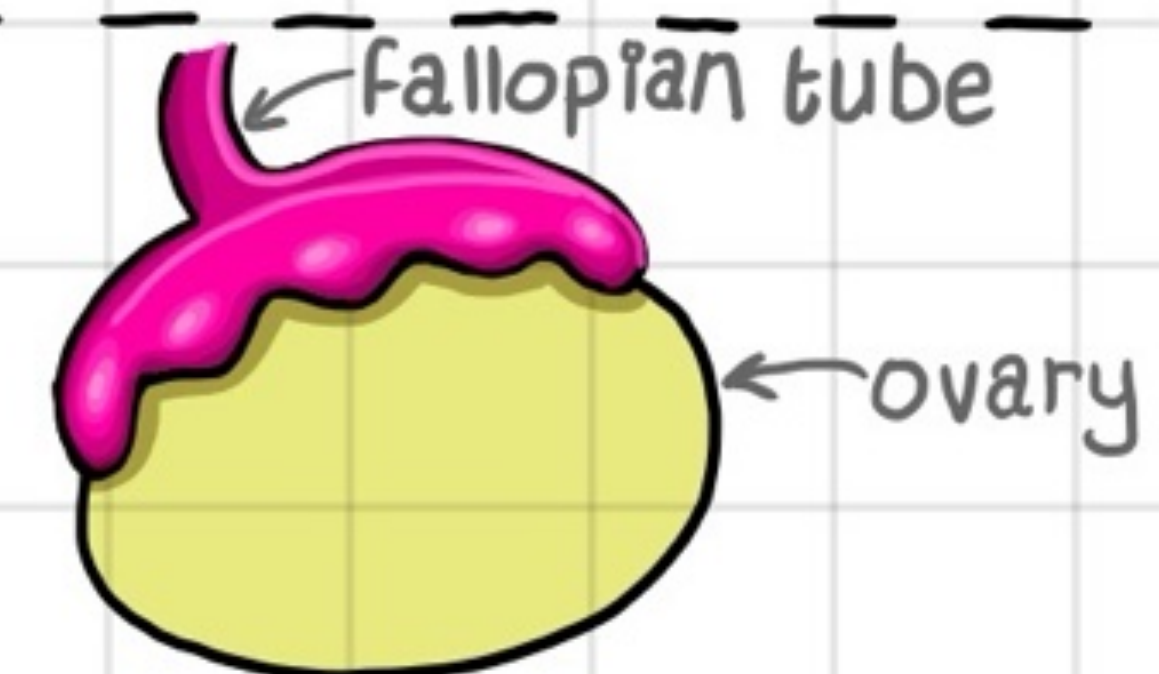
175 B



The release of the egg on day 14 of the menstrual cycle. This is triggered by a rise in LH.

Q. Which hormone stimulates the production of LH?

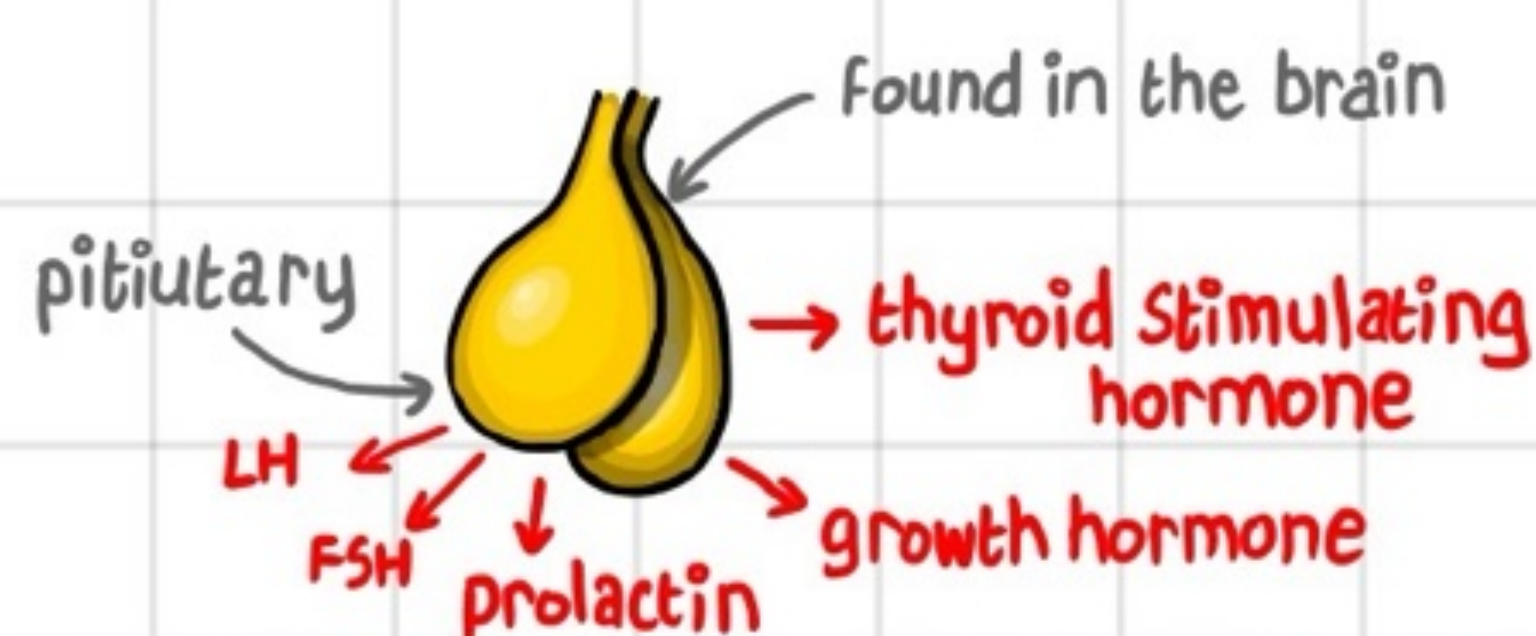
174 B



A gland which produces oestrogen. It also releases eggs as part of the menstrual cycle.

Q. Name two hormones which exert an effect on the ovary.

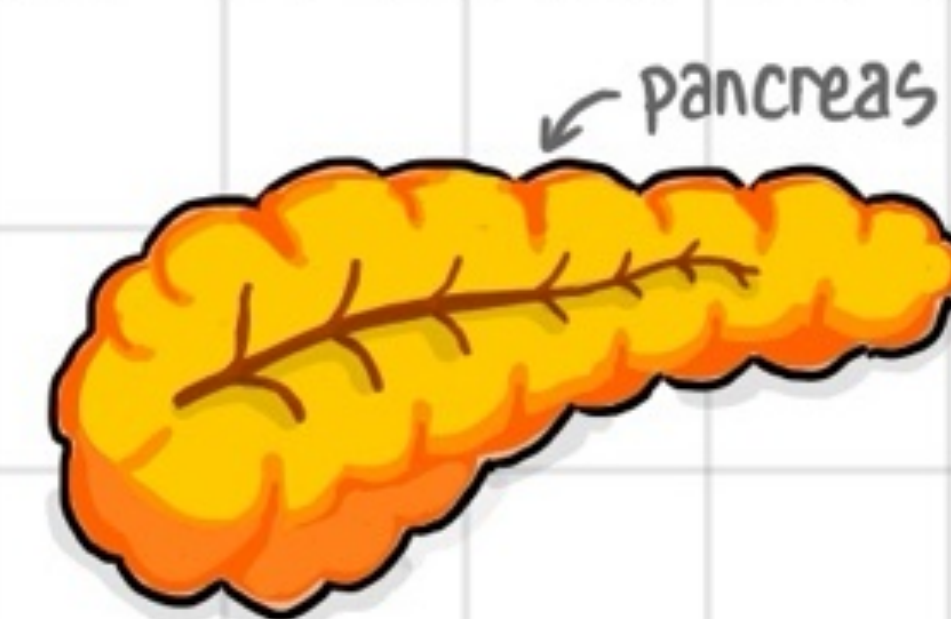
190 B



An endocrine gland found in the brain. It is often called the master gland because it controls so many hormones.

Q. Describe how the pituitary gland is involved in the control of the menstrual cycle.

180 B



An organ that produces enzymes for digestion and hormones for the regulation of blood sugar levels.

Q. Describe the roles of the pancreas.

Negative feedback

166B

Oestrogen

169B

Ovaries

174B

Ovulation

175B

Pancreas

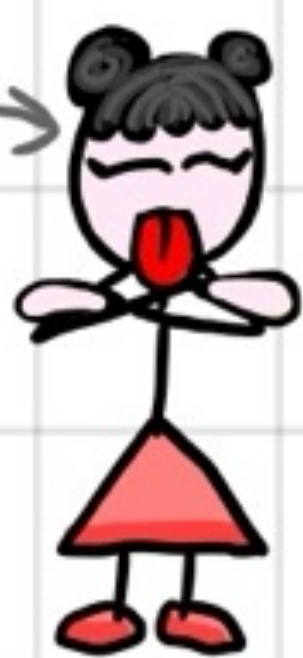
180B

Pituitary gland

190B

211B

typical teenager going through puberty



Part of the human life cycle where reproductive hormones cause secondary sexual characteristics to develop.

Q. Explain how hormones are involved in puberty in both males and females.

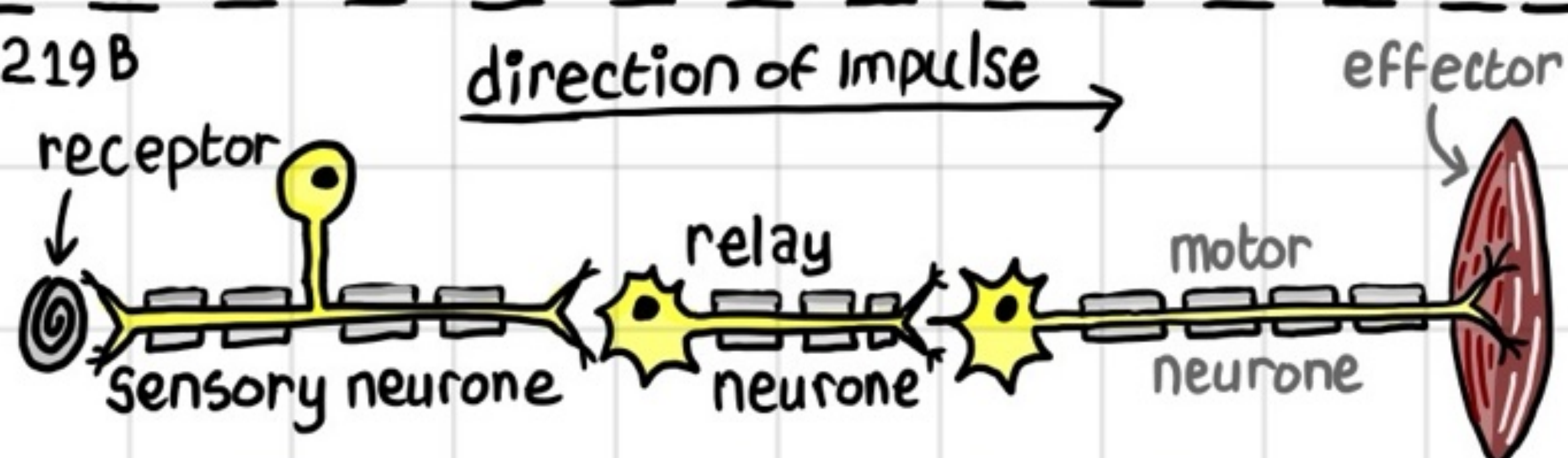
207B



A hormone produced in the ovary. It inhibits the production of LH and FSH by the pituitary. It also maintains the uterine lining.

Q. How does progesterone affect the pituitary during the menstrual cycle.

219B



The pathway for rapid and automatic responses to particular stimuli. An example is the pupil reflex to light.

Q. Describe the nerve pathway of a reflex arc from receptor to effector.

216B



Cells that detect stimuli.

Q. Explain how the nervous system detects then reacts to a named stimuli.

230B



The development of the body during puberty. The hormones oestrogen and testosterone trigger the changes.

Q. Where are oestrogen and testosterone produced in the body?

220B



A neurone that connects the sensory neurone to the motor neurone. It is located in the spinal cord.

Q. How does an impulse pass from the relay neurone to motor neurone?

Progesterone

207B

Puberty

211B

Receptors

216B

Reflex arc

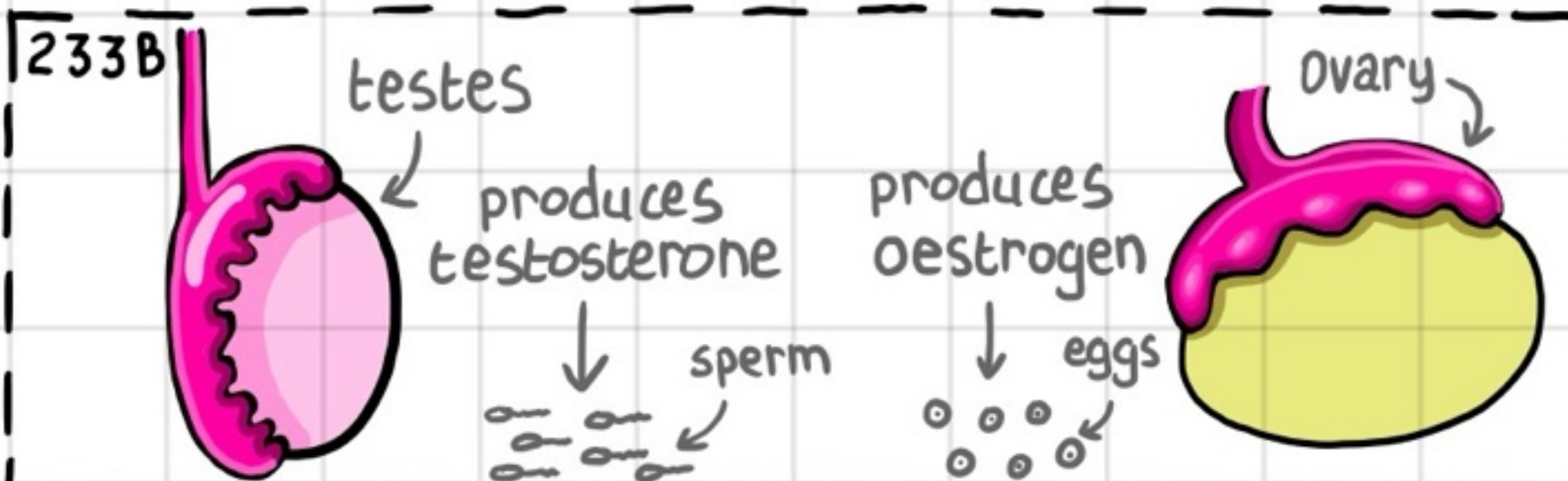
219B

Relay neurone

220B

Secondary sexual characteristics

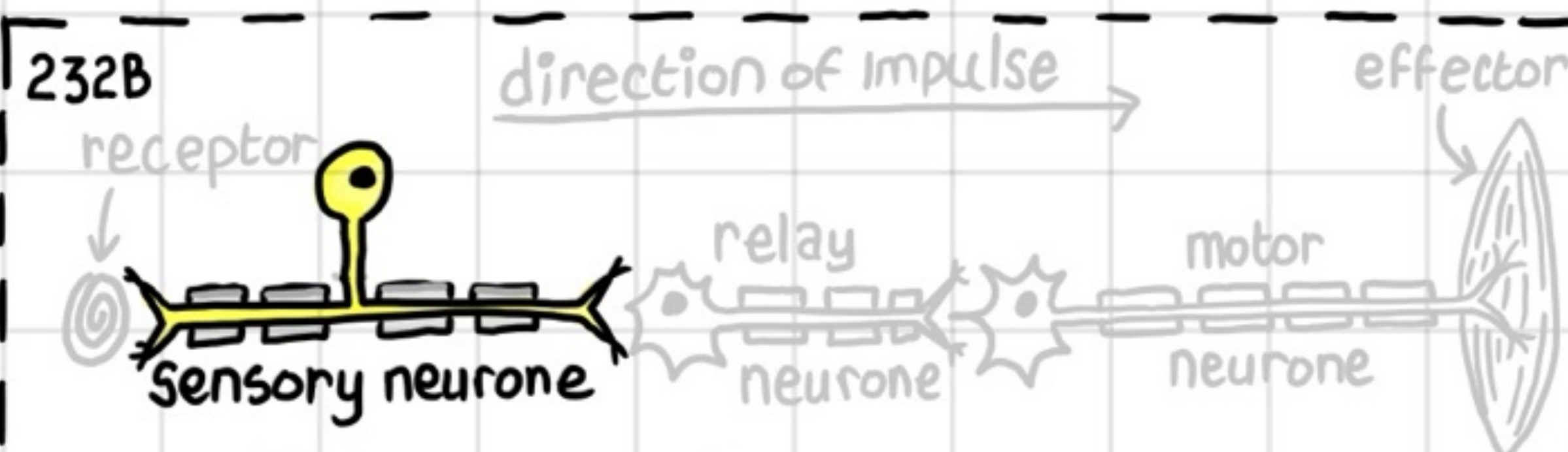
230B



Hormones released at puberty. Testes release testosterone and ovaries release oestrogen.

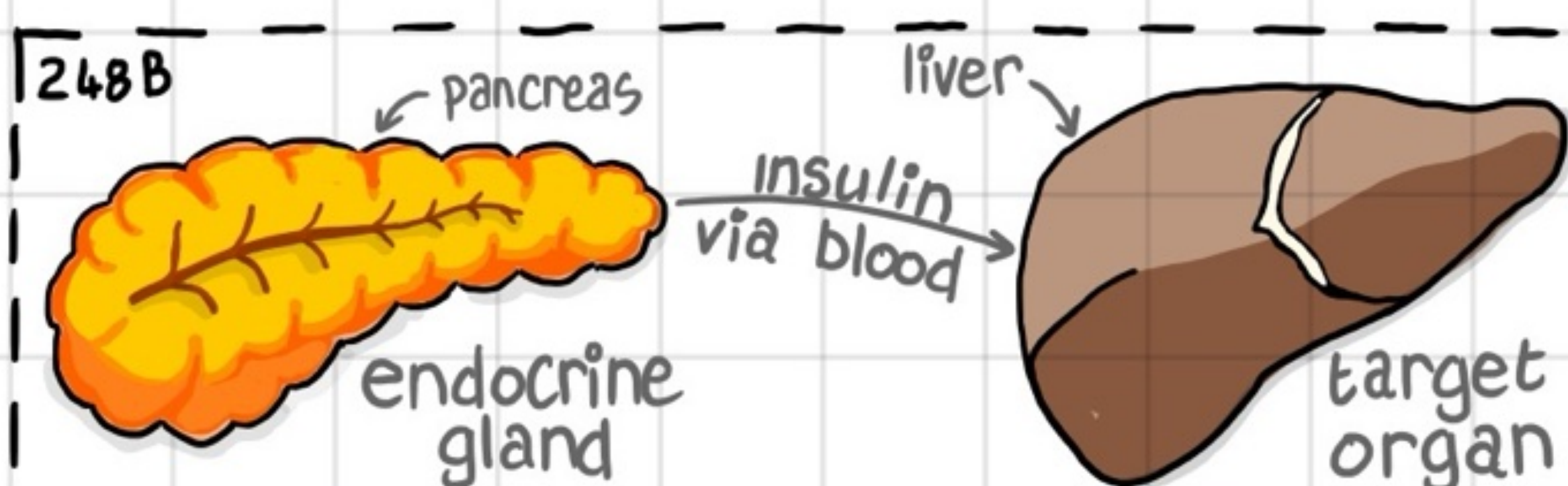
Q. Describe the effects of oestrogen and testosterone on the body during puberty.

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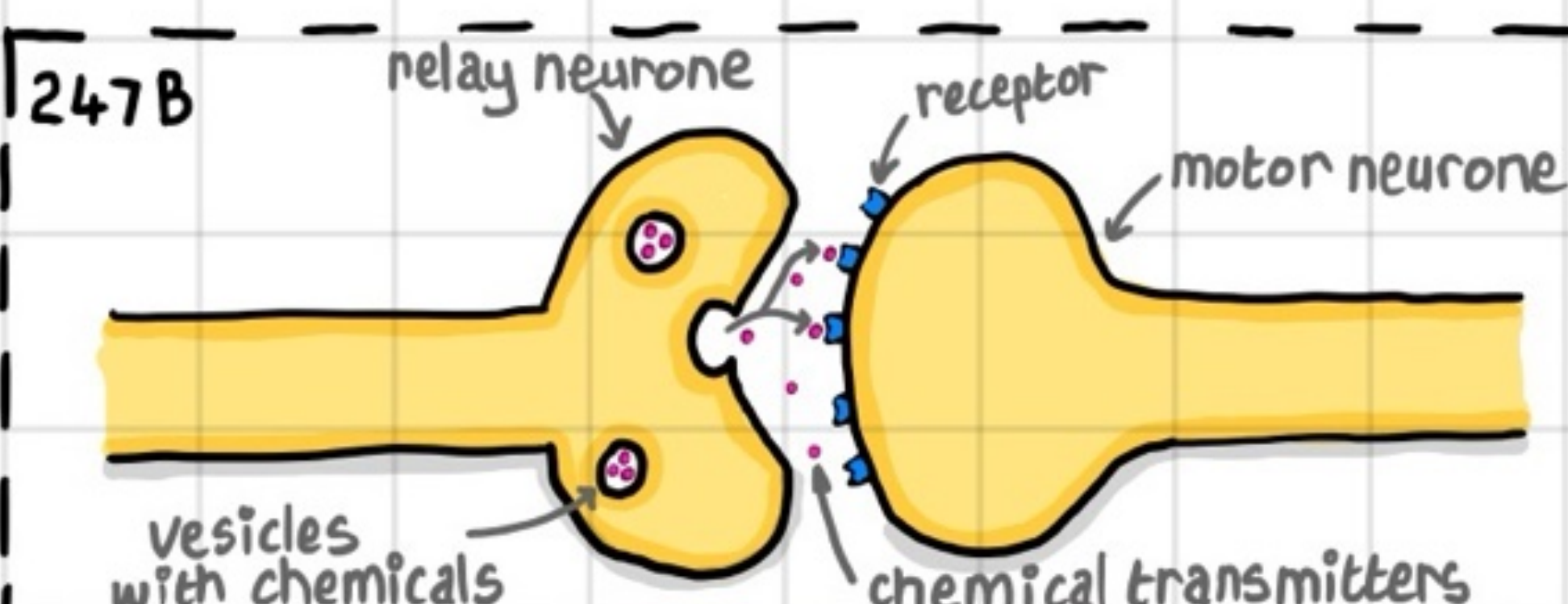
Neurones which carry information from a receptor to a relay neurone in the CNS.

Q. Describe the role of the neurones in a reflex action in response to touching a hot cup of coffee.



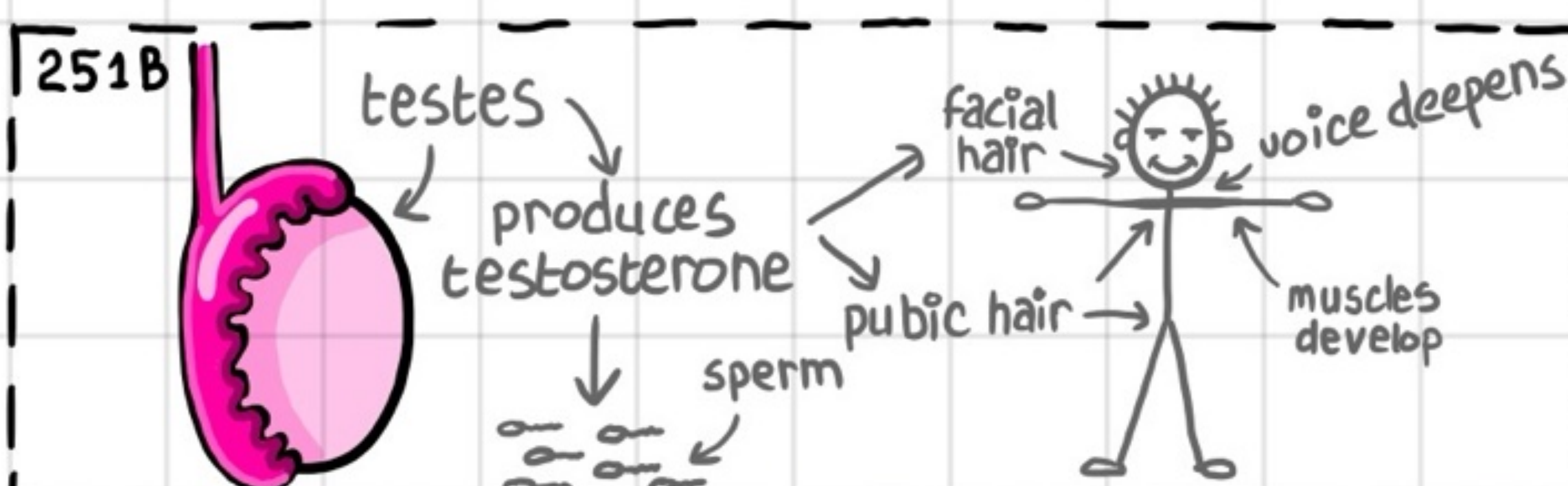
An organ which responds to a chemical signal from a hormone. Only an organ with the correct receptors will respond.

Q Name the target organs for the hormones in the menstrual cycle (oestrogen, progesterone, LH and FSH).



A gap between two neurones. The nerve impulse is transmitted across the gap by chemicals. This allows impulses to be modulated.

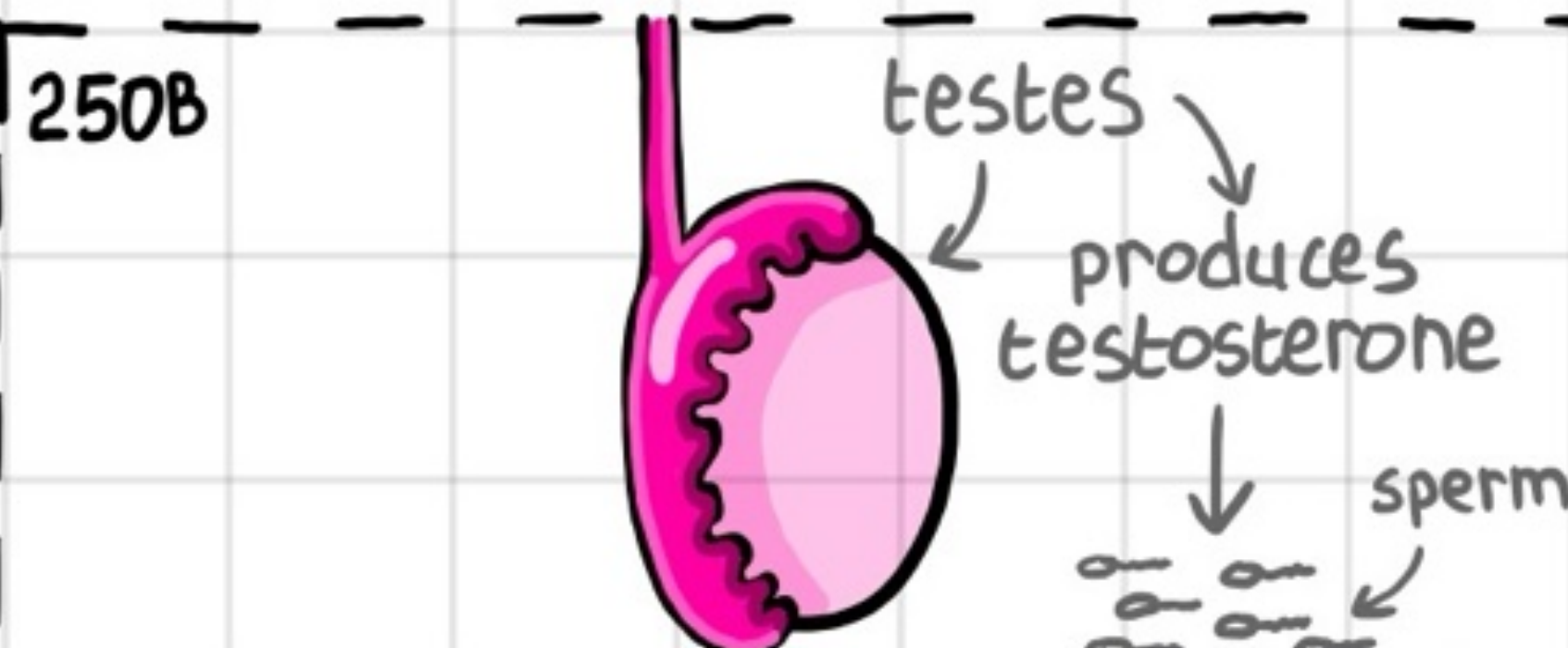
Q. Explain how a nerve impulse is transmitted across a synapse.



A hormone produced by the testes. It triggers the development of secondary sexual characteristics in males. It also stimulates sperm production.

Q. Describe the effects of testosterone during puberty.

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The site of sperm production in males. Also the site of testosterone production.

Q. Compare and contrast the functions of the testes and the ovaries.

Sensory neurones

232B

Sex hormones

233B

Synapses

247B

Target organ

248B

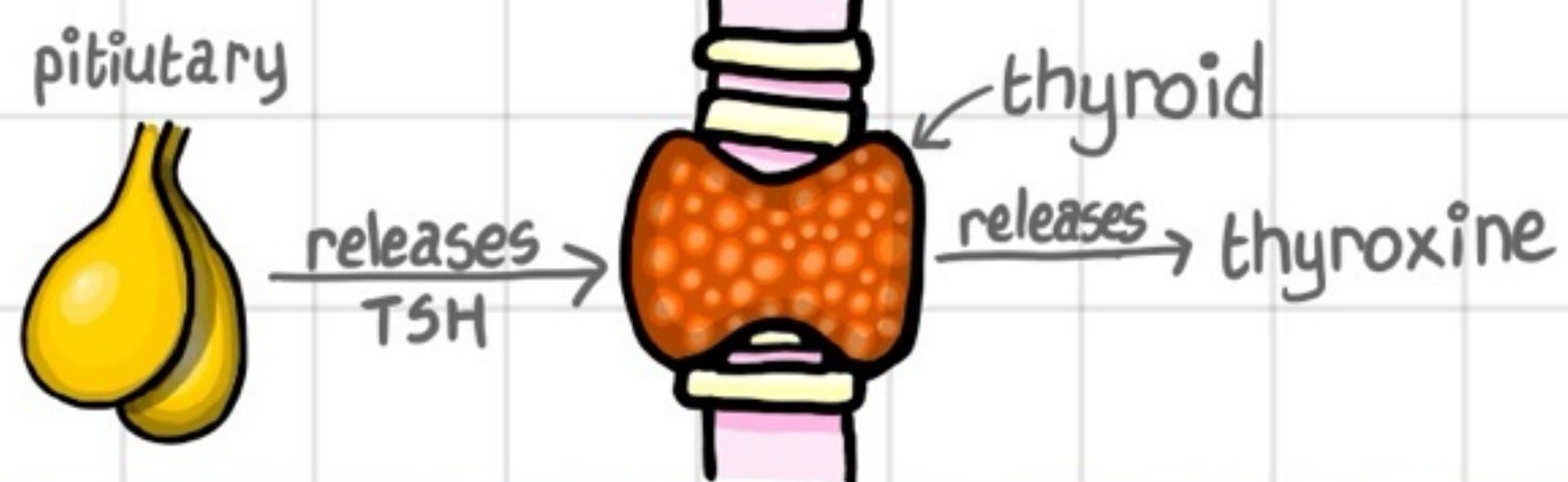
Testes

250B

Testosterone

251B

254B

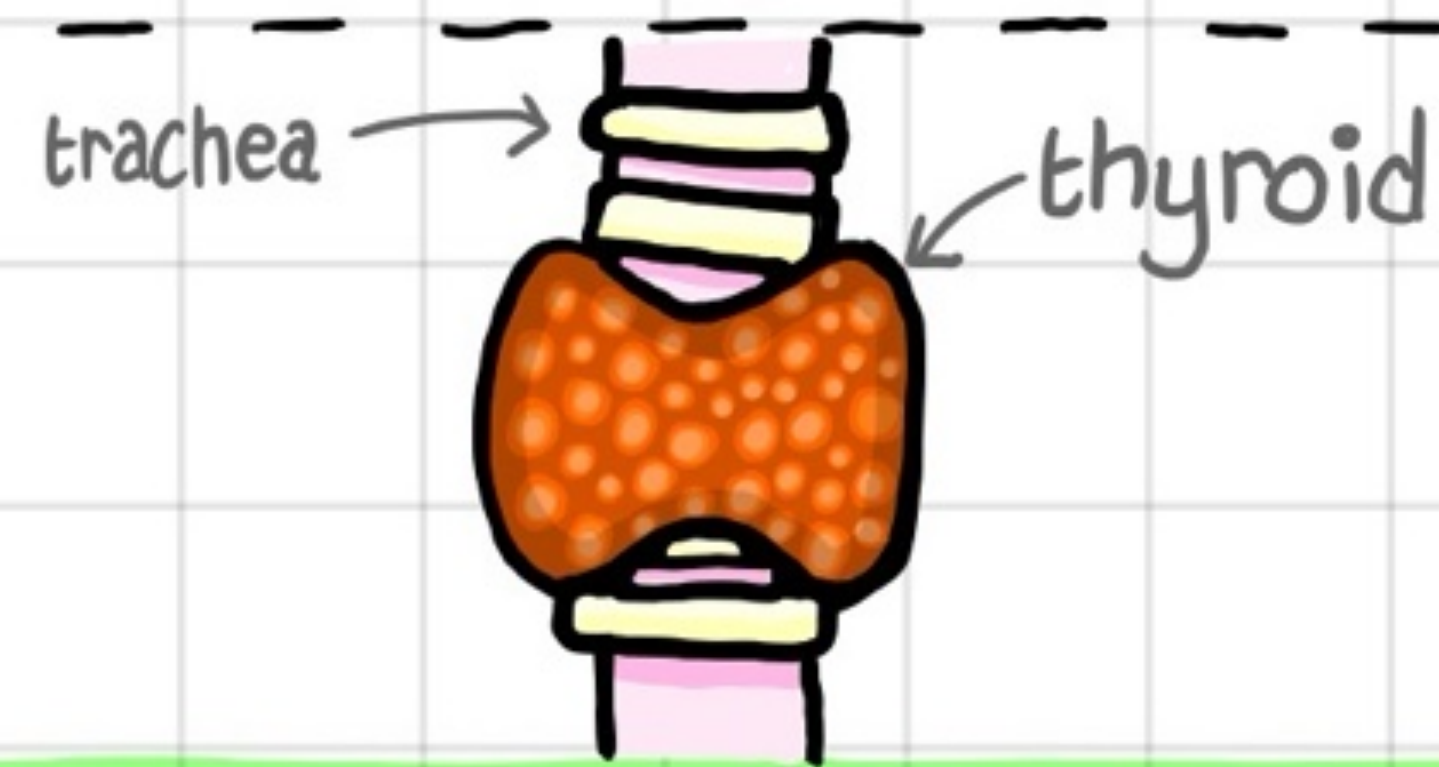


A hormone released by the pituitary which stimulates the thyroid to produce thyroxine.

Q. Describe how TSH is involved in a negative feedback system with thyroxine



253B



A gland found on the throat which releases thyroxine.

Q. Describe the role of the thyroid in controlling the metabolic rate.



255B



A hormone released by the thyroid which controls the basal metabolic rate. It is also involved in stimulating protein synthesis for growth and development.

Q. Describe the response of the body to high levels of thyroxine.



Thyroid gland

253B

Thyroid stimulating hormone (TSH)

254B

Thyroxine

255B