

HUMAN ENDOCRINE SYSTEM: Chemical Coordination

Define:

Hormones: *Hormones are the body's chemical messengers. They are made up of proteins*

Endocrine gland: *(ductless gland) Releases hormones directly into the bloodstream*

Exocrine gland: *Gland that release discharges (juices) into ducts*

Hypothalamus gland secretes

ADH (Antidiuretic Hormone)

Function: *Controls the concentration of water in the blood*

Target organ: **Kidney**

Thyroid Gland. Releases **Thyroxin**

Functions:

- * Controls basic metabolic rate
- * Increases heart rate
(Uses all energy from food - could lead to a person being underweight)

..... gland secretes

Adrenalin

Functions: **Increases**

- * Heartbeat and blood pressure
- * Conversion from glycogen to glucose
- * blood supply to the cardiac and skeletal muscles
- * rate and depth of breathing • diameter of pupils

Function: **Decreases** blood flow to the **digestive system** and the **skin**

Aldosterone

Target Organ: **Kidney**

Function:

- * Regulates **Salt** concentration in the blood **(regulates the salt balance)**

Pituitary gland (Hypophysis) secretes:

Complete the table below

HORMONE	FUNCTION
i) GH (growth hormone)	<i>Stimulates growth of the body</i>
ii) <i>Thyroid stimulating hormone(TSH)</i>	<i>Stimulates the thyroid gland to secrete thyroxin</i>
<i>Reproductive hormones</i>	
iii) FSH	<i>Stimulates follicle development</i>
iv) LH	<i>Stimulates ovulation and development of the corpus luteum</i>
v) Prolactin	<i>Stimulates milk production</i>

Pancreas : Islets of Langerhans secretes

Insulin

Functions:

- * When blood-glucose level is high
- * Converts glucose to glycogen, to decrease blood glucose levels

Glucagon ('released when the glucose is gone')

Functions:

- * When blood-glucose level is low
- * Converts glycogen to glucose, to increase blood glucose levels

Ovary (Female gonad) secretes

Oestrogen

Functions:

- * Thickens the endometrium
- * Stimulates puberty in females

Progesterone

Functions:

- * Maintains pregnancy
- * Inhibits the release of FSH

Testes (Male gonad) produces

Male hormone: **Testosterone**

Functions:

- * Stimulates secondary sexual characteristics in males
- * Stimulates the maturation of sperm cells
- * Stimulates puberty in males
- * Stimulates the male sexual organ

Reproductive Hormones