

5.3 The Endocrine System

The endocrine system is a system of glands that produce and release hormones. Hormones are chemical messengers that regulate growth, metabolism, reproduction, mood, and many other body activities.

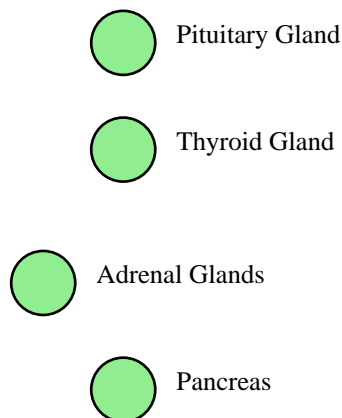
Definition of Endocrine System

The endocrine system is a network of glands that secrete hormones directly into the blood. These hormones help maintain homeostasis and coordinate body functions.

Major Endocrine Glands

Gland	Location	Main Hormone	Function
Pituitary	Brain	Growth hormone	Controls growth
Thyroid	Neck	Thyroxine	Regulates metabolism
Pancreas	Abdomen	Insulin	Controls blood sugar
Adrenal	Above kidneys	Adrenaline	Stress response
Testes/Ovaries	Reproductive organs	Sex hormones	Reproduction

Illustration of Endocrine Glands



Functions of Hormones

- Control growth and development
- Regulate metabolism
- Maintain homeostasis
- Control reproduction
- Help the body respond to stress

Important Notes

- Hormones work slowly compared to nerve impulses.
- The pituitary gland is called the “master gland.”
- Insulin deficiency can lead to diabetes mellitus.
- Thyroxine controls metabolic rate.

Summary

The endocrine system is made of glands that release hormones into the blood. These hormones regulate growth, metabolism, reproduction, and homeostasis.

Review Questions and Answers

1. What is the endocrine system?

The endocrine system is a group of glands that produce hormones.

2. What are hormones?

Hormones are chemical messengers carried in the blood.

3. Why is the pituitary gland called the master gland?

Because it controls many other endocrine glands.

4. Which hormone controls blood sugar level?

Insulin controls blood sugar level.

5. Name two endocrine glands.

Pituitary gland and thyroid gland.