

Difference Between Endocrine and Exocrine

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Key Difference - Endocrine vs Exocrine

Endocrine and Exocrine are two gland systems that synthesize and secrete different substances of our body. Both systems are made from a collection of major glands. [Endocrine system](#) is a collection of glands that produces and secretes substances such as [hormones](#) directly into the [blood](#). The circulatory system moves these substances throughout the body. Endocrine system secretes substances such as [enzymes](#) into the ducts that lead to the target [tissues](#). The **key difference** between endocrine and exocrine systems is that the **endocrine system releases produced substances directly into the blood while exocrine system does not release its products directly into the blood.**

What is Endocrine?

Endocrine is a collection of glands that produces and secretes substances which are important for the regulation of the different processes of the human body such as growth and development, [reproduction](#), sexual function, tissue function, [metabolism](#), mood, sleep etc. The speciality of the endocrine system is that it secretes its products directly into the blood. Through the circulatory system, these substances are reached to the target organs and tissues. Hormones are popular substances that produce the endocrine system. The different glands including the endocrine system are [pituitary gland](#), [pancreas](#), [thyroid gland](#), adrenal glands, parathyroid glands, reproductive glands such as ovaries and testicles etc.

Major Endocrine Glands

Male Female

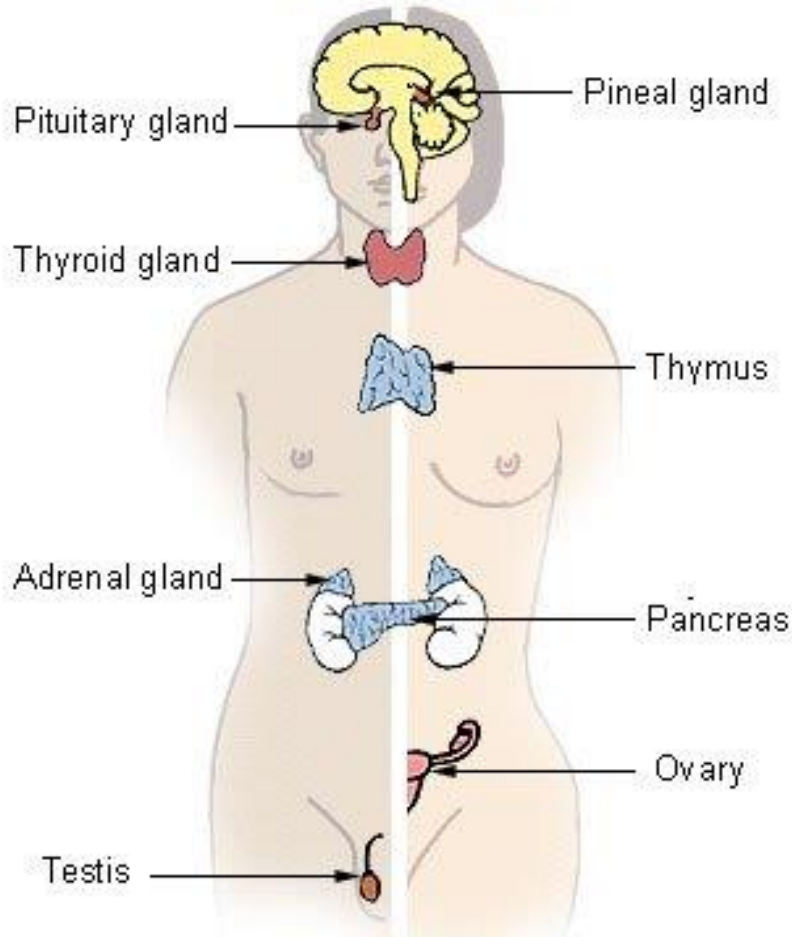


Figure 01: Endocrine System

When the endocrine system does not function properly, secretion and production of its products vary than the normal levels. There are certain diseases associated with the malfunctioning of the endocrine system. They are [diabetes](#), [hypothyroidism](#), hypoglycemia, thyroid cancer etc. that arise due to abnormal levels of respective hormones. And also several conditions such as [stress](#), [infections](#), electrolyte imbalance etc. can be occurred due to the malfunction of the endocrine system.

What is Exocrine?

Exocrine system is one of the two types of gland systems in our body. It is a collection of glands. Exocrine system produces and secretes substances that are necessary to protect and lubricate the human body. Exocrine glands are composed of a glandular portion and a duct portion. These glands secrete their products into duct portion leading to the

target tissues. These secretions are not released into the blood system, unlike endocrine system. They are normally deposited onto [epithelial](#) surfaces that line the cavities and surfaces of blood vessels and organs throughout the body. Enzymes, sweat, [mucus](#) are products of the exocrine system.

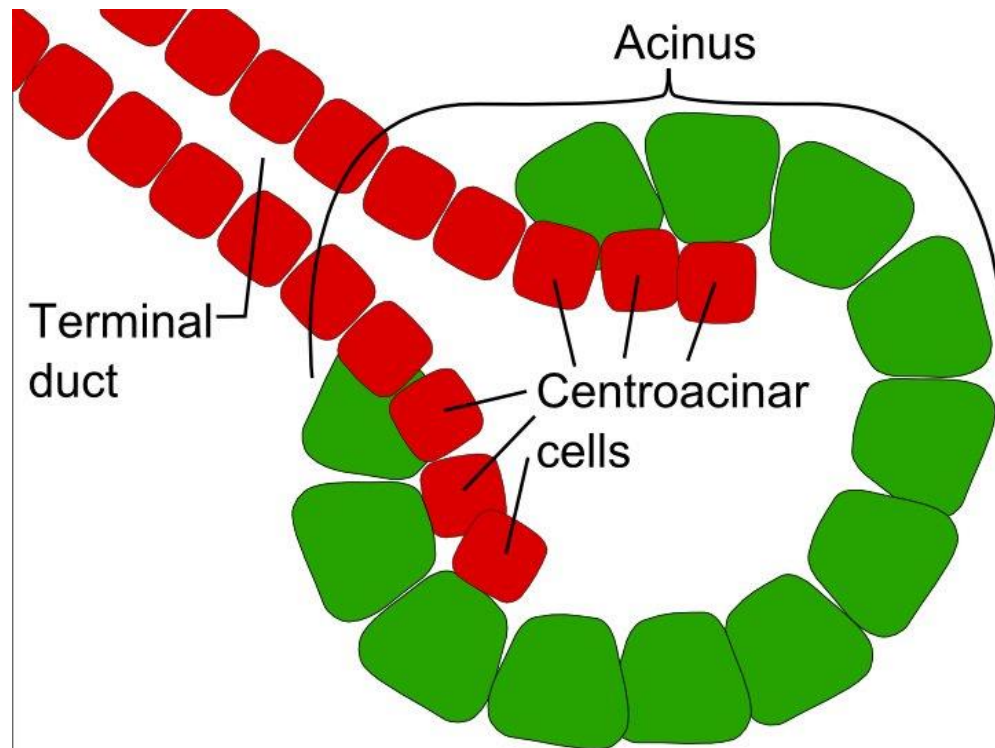


Figure 02: Exocrine Gland

Examples of exocrine glands are sweat, salivary, mammary, ceruminous, lacrimal, bile-producing glands, prostate, [sebaceous](#), and mucous glands. These glands can be further classified based on the structure, the method of secretion and the product secreted.

What are the Similarities Between Endocrine and Exocrine?

- Both systems produce and secrete substances that are important for different processes, protection and function of the body.
- Both are made up of a collection of glands.
- Both gland systems are vital gland systems in the human body.

What is the Difference Between Endocrine and Exocrine?

Endocrine vs Exocrine

<p>The endocrine system is a collection of glands that produces and secretes substances into the blood that are necessary for different processes of the body.</p>	<p>The exocrine system is a collection of glands that produces and secretes substances into ducts that are necessary to protect and lubricate the human body.</p>
Released Products to Blood	
<p>Endocrine products are directly secreted into the blood.</p>	<p>Exocrine products are not released into the blood.</p>
Function	
<p>Endocrine products are necessary for the many processes of the body such as growth and development, metabolism, tissue function, reproduction and sexual function, mood, sleep etc.</p>	<p>Exocrine products are necessary to protect and lubricate the blood vessels and organ cavities.</p>
Glands	
<p>Endocrine glands are pituitary gland, pancreas, thyroid gland, adrenal glands, parathyroid glands, reproductive glands such as ovaries and testicles.</p>	<p>Exocrine glands are sweat, salivary, mammary, ceruminous, lacrimal, bile-producing glands, prostate, sebaceous, and mucous.</p>
Popular Products	
<p>Hormones are one best example of the products of the endocrine</p>	<p>Enzymes are one of the best examples of the products of the exocrine</p>

Summary - Endocrine vs Exocrine

Endocrine and exocrine are two types of gland systems found in human body. Endocrine system produces and secretes substances such as hormones directly into the blood that are necessary for different functions in our body. These functions include growth and development, reproduction and sexual functions, metabolism, tissue function, mood, etc. The exocrine system produces and secretes substances that are necessary to protect and lubricate the human body. Products of the exocrine glands are secreted into ducts that lead to target tissues and organs. They are not released into the circulatory system. This is the difference between endocrine and exocrine systems.

Reference:

- 1.Zimmermann, Kim Ann. “Endocrine System: Facts, Functions and Diseases.” LiveScience, Purch, 11 Mar. 2016. [Available here](#)
- 2.“Exocrine gland.” Wikipedia, Wikimedia Foundation, 11 Feb. 2018. [Available here](#)

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- 2.'Centroacinar cells'By Mikael Häggström - Basic histology - Junqueira & Carneiro, ISBN 0-07-144091-7, McGraw-Hill Education 2005, (Public Domain) via [Commons Wikimedia](#)

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