

Glandular Epithelium

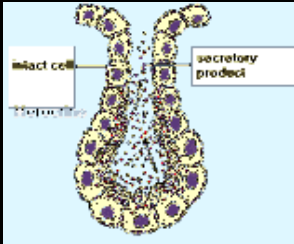
- ◆ **Glandular Epithelium** is made up of cells designed to produce and secrete substances into ducts or into body fluids.
- ◆ Two types of glands:
 - 1) **exocrine**: glands that secrete substances into ducts that empty onto epithelial tissue; produce mucus, serous fluid, or other secretions.
 - 2) **endocrine**: "ductless" glands that secrete substances into bloodstream or interstitial space; produce hormones

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- ◆ Exocrine glands are classified by the ways they secrete their products.
 - 1) Merocrine glands
 - 2) Apocrine glands
 - 3) Holocrine glands

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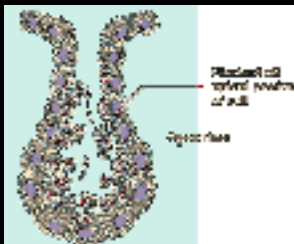
1) **Merocrine glands** release mucus or serous fluid by exocytosis (most glands, including pancreas).



The diagram shows a cross-section of a merocrine gland. A secretory cell is shown with a nucleus and cytoplasm containing secretory granules. These granules are moving towards the apical surface of the cell, where they are released into a duct through a process of exocytosis. Labels include 'secretory cell', 'secretory product', and 'duct'.

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2) **Apocrine glands** lose portions of their cell bodies during secretion (mammary glands).



The diagram shows a cross-section of an apocrine gland. A secretory cell is shown with a nucleus and cytoplasm containing secretory granules. These granules are moving towards the apical surface of the cell, where they are released into a duct through a process of apocrine secretion. Labels include 'secretory cell', 'secretory product', and 'duct'.

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3) **Holocrine glands** release entire cells (sebaceous glands and sweat glands).



The diagram shows a cross-section of a holocrine gland. A secretory cell is shown with a nucleus and cytoplasm containing secretory granules. These granules are moving towards the apical surface of the cell, where they are released into a duct through a process of holocrine secretion. Labels include 'secretory cell', 'secretory product', and 'duct'.

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Holocrine: Sebaceous Gland



The micrograph shows a cross-section of a sebaceous gland. The gland is composed of a cluster of secretory cells that are all at different stages of maturation. The entire cell is released into a duct through a process of holocrine secretion. Labels include 'secretory cell', 'secretory product', and 'duct'.

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- ◆ **Epithelia** are the secretory cells of all glands.
- ◆ **Simple cuboidal epithelia** are the most typical type of glandular epithelia and found in ducts of exocrine glands.



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- ◆ Exocrine glands are classified according to structure into **simple** and **compound** glands.



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Types of Merocrine Secretions

- ◆ **Serous fluid**: watery secretion with at high concentration of enzymes secreted by cells in the serous membranes (into pleural, pericardial, peritoneal cavities)
- ◆ **Mucus**: thick fluid, rich in the glycoprotein mucin secreted by the cells in digestive and respiratory linings.

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