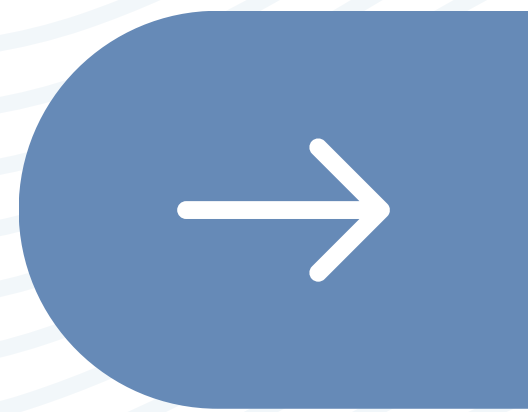


#DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

EXOCRINE GLANDS





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EXOCRINE GLANDS

Two principal types of glands exist: exocrine and endocrine. The key difference between the two types is that, whereas exocrine glands secrete substances into a ductal system to an epithelial surface, endocrine glands secrete products directly into the bloodstream.

IMAGE DESCRIPTION

Locations of
exocrine glands &
what they secrete

Eyes
tears

Mouth
saliva

Skin
sweat
sebum

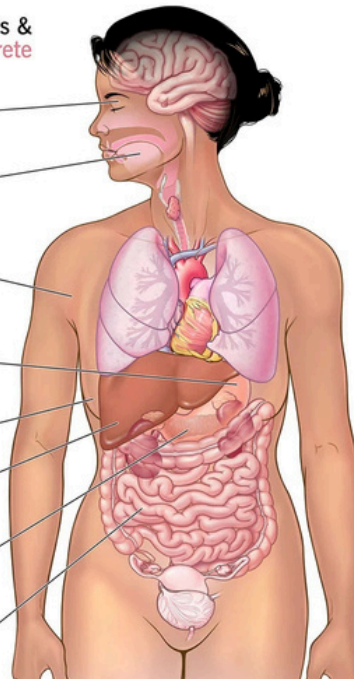
Stomach
enzymes

Breasts
milk

Liver
bile

Pancreas
juices

Intestines
mucus



Due to the diverse number and function of epithelial surfaces in the body, many organ systems utilize exocrine glands

- ***The skin has a variety of exocrine glands, including the eccrine sweat glands and sebaceous glands.***
- ***The salivary glands in the mouth are another example of exocrine glands and include the parotid glands, submandibular glands, and sublingual glands.***
- ***The stomach holds multiple types of exocrine glands that include pyloric glands, cardiac glands, and fundic glands.***
- ***The exocrine pancreas assists in food digestion by releasing a secretion rich in bicarbonate, which helps to neutralize the acidic environment.***
- ***Brunner glands are present in the duodenum of the small intestine.***



DEVELOPMENT OF EXOCRINE GLAND

- ***The initial manifestation of exocrine gland formation is epithelial budding resulting from a complex interaction between mesenchymal and epithelial cell populations.***
- ***This initial period of ingrowth is influenced by fibroblast growth factors, most notably FGF10 and cadherin-2.***
- ***Other transcription factors that have been shown to contribute to epithelial budding include HlxB9, Isl1, LEF-1, Msx1/2, Pbx1, Pdx1, and Tbx3.***
- ***A large role exists for cell adhesion molecules such as laminin and cadherins.***



EXOCRINE GLANDS AT CELLULAR LEVEL

- ***Exocrine glands are comprised of an acinus and a duct with different cell types, respectively.***
- ***Typical cell types within the acinus include serous, mucinous, or sebaceous.***
- ***Serous cells secrete an isotonic fluid that contains proteins such as enzymes.***
- ***Mucinous glands secrete mucus, a typical example being Brunner glands in the duodenum.***



DEFECTS IN EXOCRINE GLANDS

- ***Sjögren's Syndrome*** - An autoimmune disorder that demonstrates decreased lacrimal and salivary gland function.
- ***Cystic Fibrosis*** - A mutation of the CFTR protein, CFTR is involved in the production of sweat, mucus, and digestive fluids, the mutation causes a direct effect.
- ***Acne Vulgaris*** - Disorder affects the pilosebaceous unit, of which sebaceous glands.



MCQ

Question:

Q.) Meconium ileus is associated with:

- A.) *Cystic fibrosis*
- B.) *Infant of diabetic mother*
- C.) *Hypothyroidism*
- D.) *None of the above*

Ans - A.) Cystic Fibrosis