

# SALIVARY GLANDS

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## Objectives

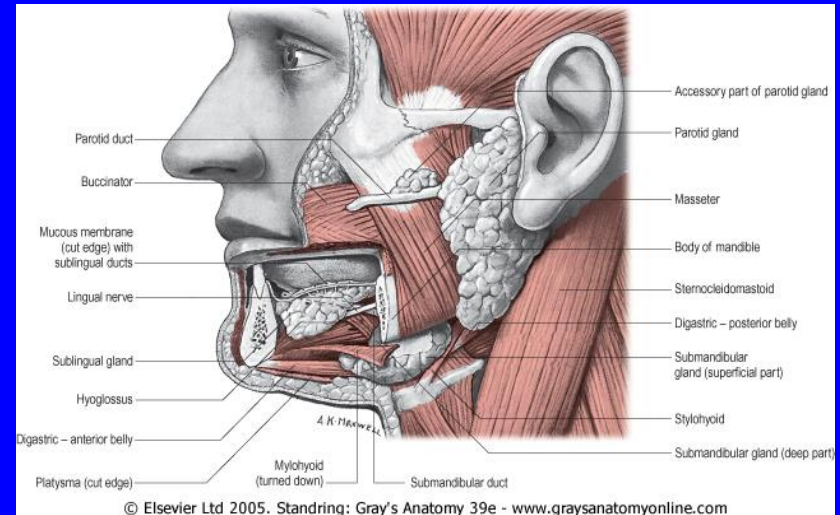
By the end of the lecture the student should be able to:

- Describe the microscopic structure of the major salivary glands in correlation with function.

# SALIVARY GLANDS

## (A) Major Salivary Glands:

- 1- Parotid.
- 2- Submandibular.
- 3- Sublingual.



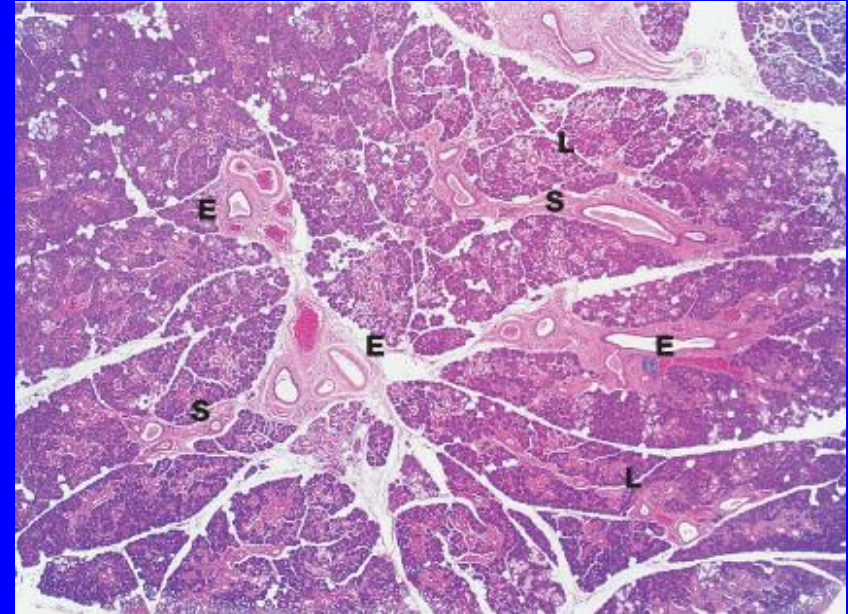
## (B) Minor Salivary Glands:

- Labial, Lingual, Buccal, Palatine.
- Produce 5% of salivary output.
- Most of them are pure mucous or seromucous glands.

# Major Salivary Glands

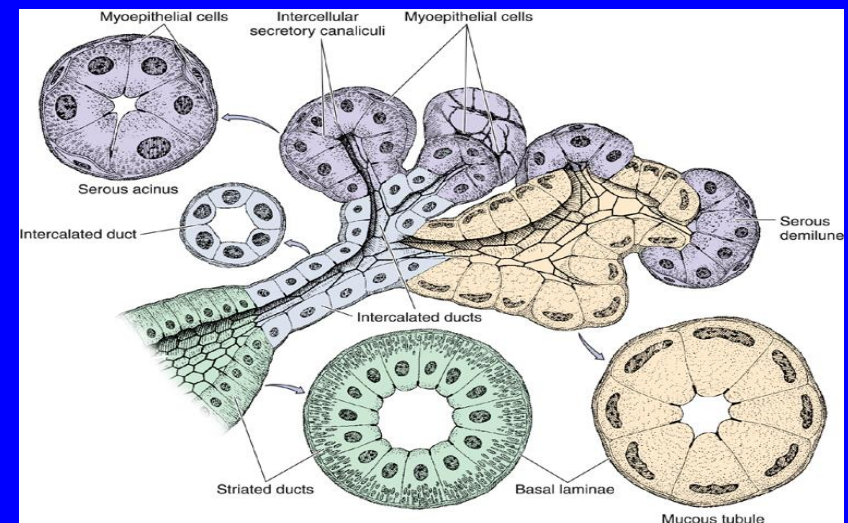
## ■ Stroma:

- C.T. capsule.
- C.T. septa dividing the glands into lobes and lobules.
- Reticular C.T.



## ■ Parenchyma:

- Acini.
- Duct system.



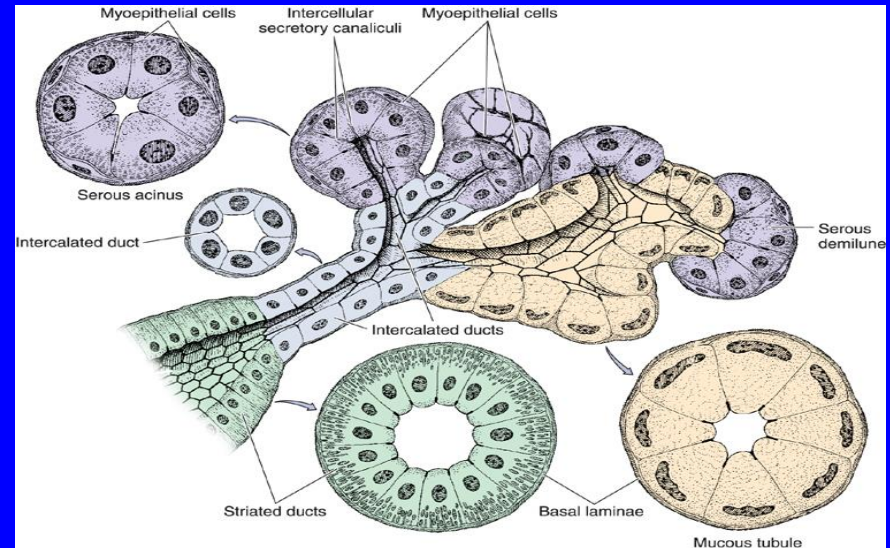
# Types of Salivary Acini

## 1. Serous Acini:

- Contain only serous cells.
- Small, spherical, and with a narrow lumen.
- Secrete serous secretion rich in enzymes, such as amylase and lysozyme.

## 2. Mucous Acini:

- Contain only mucous cells.
- Larger, more tubular, and with a wider lumen.
- Secrete mucous secretion.



## 3. Mucoserous (Mixed) Acini:

- Mucous acini with a cap of serous cells (serous demilunes).

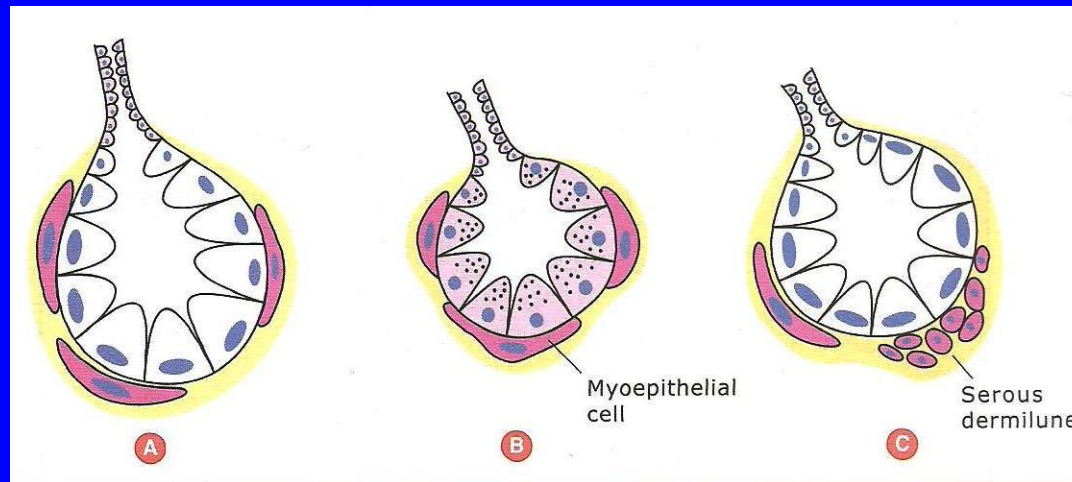


# Types of Salivary Acini

Mucous

Serous

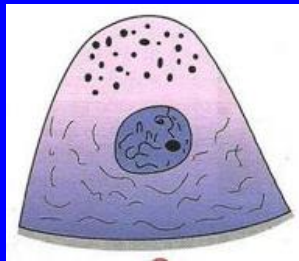
Mixed



# Cells of Salivary Acini

## 1. Serous cells

- Pyramidal in shape.
- Nuclei are round and basal.
- Cytoplasm:
  - Deeply basophilic (due to numerous RER), with apical acidophilic secretory granules (rich in salivary amylase).



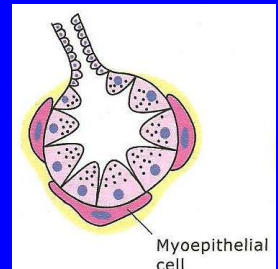
## 2. Mucous cells

- Pyramidal or cuboidal.
- Nuclei are flattened and basal.
- Cytoplasm:
  - Pale basophilic and vacuolated (foamy) (due to dissolved mucinogen secretory granules).



## 3. Myoepithelial cells (basket cells):

- Contractile cells that embrace the basal aspect of the acini.
- Their contraction releases the secretion into the duct system.



# Duct System of Salivary Glands

## 1. Intralobular ducts (prominent):

### a. Intercalated ducts:

» lined by small cuboidal cells.

### b. Striated ducts:

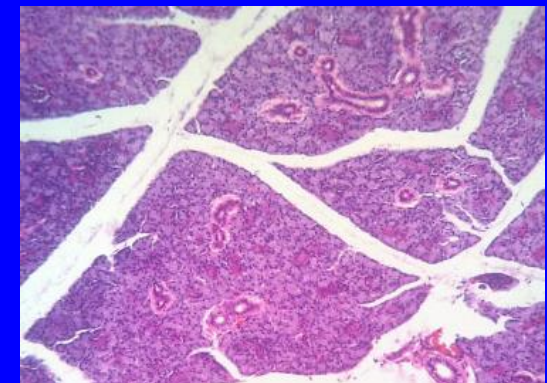
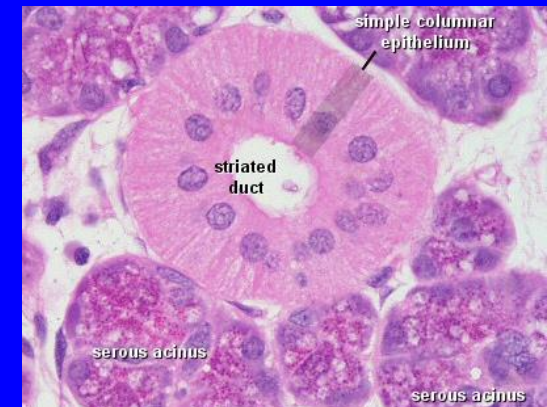
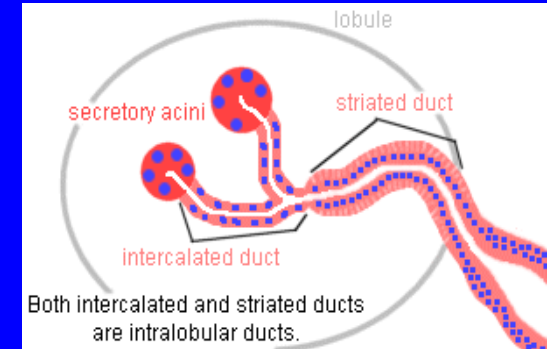
» lined by low columnar cells.

## 2. Interlobular ducts:

– lined by simple columnar epithelium.

## 3. Main duct:

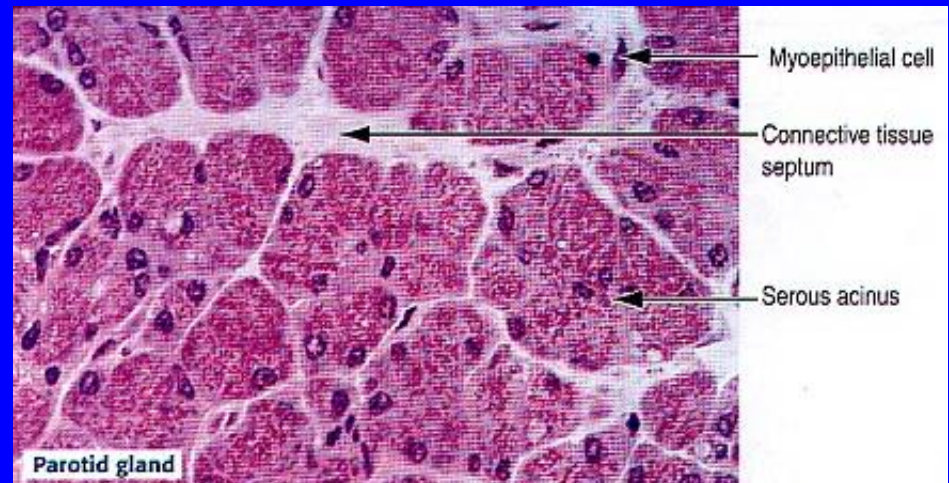
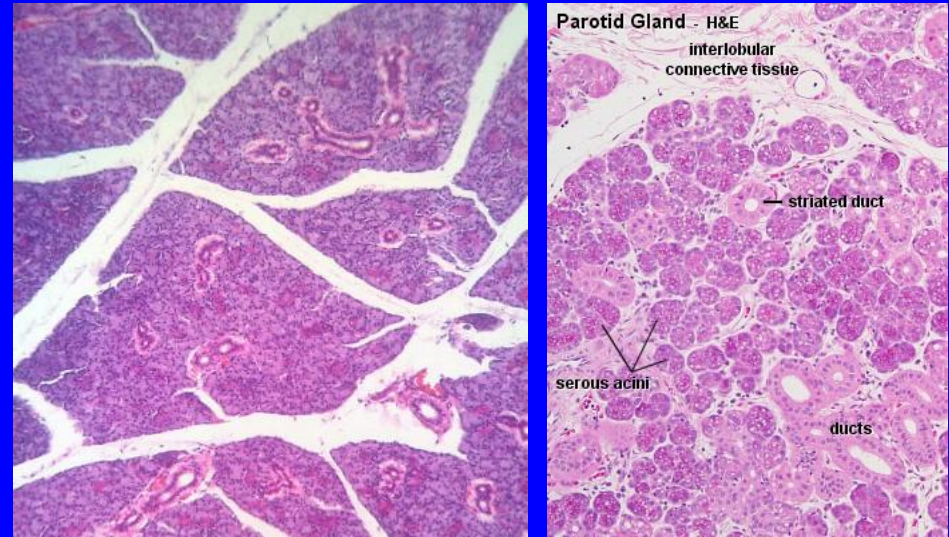
– lined by stratified columnar epithelium which becomes stratified squamous (nonkeratinized) in the distal end.





# Parotid Gland

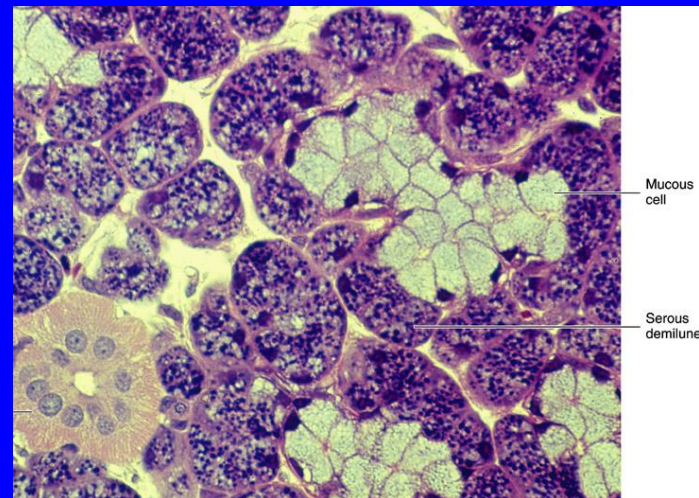
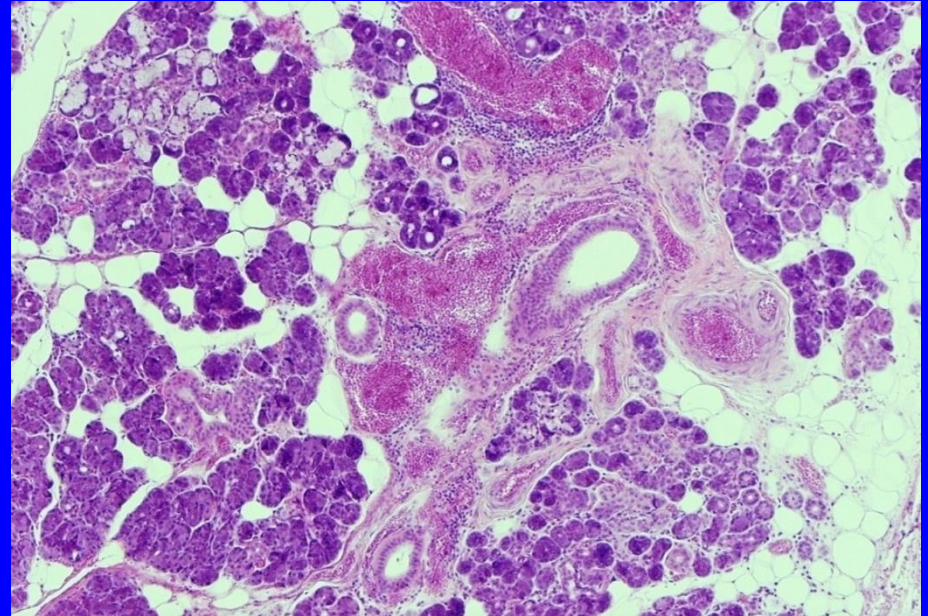
- The largest salivary gland.
- Produces 30% of salivary output.
- Purely serous.
- Prominent intralobular ducts.
- Secretion rich in:
  - Amylase.
  - Lactoferrin.
  - Lysozyme.
  - Secretory IgA.





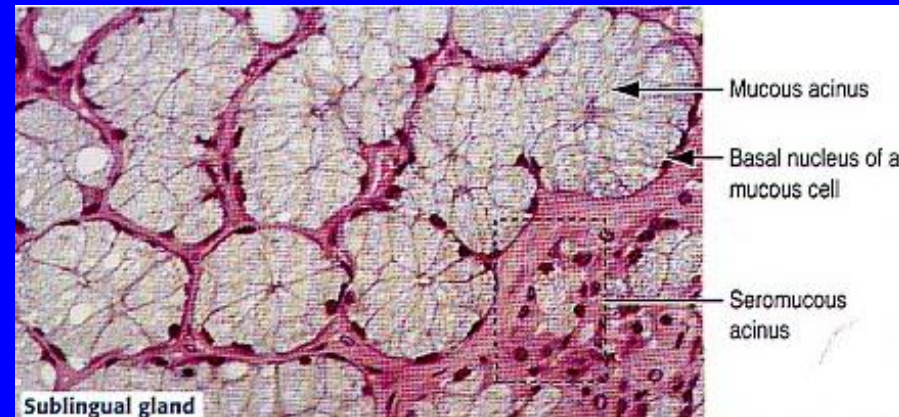
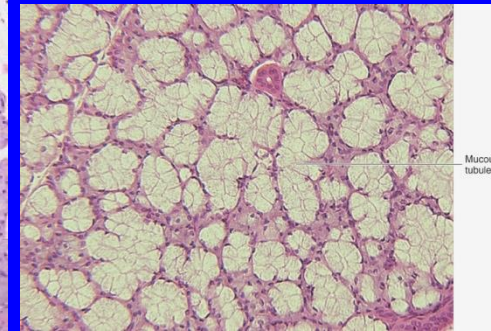
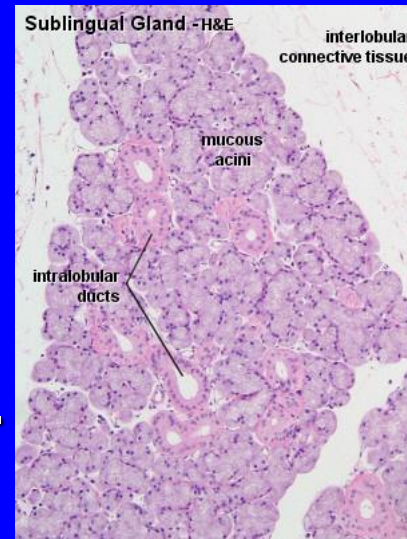
# Submandibular Gland

- Produces 60% of salivary output.
- Mixed but mostly serous (90%).
- Mucous acini are capped by serous demilunes.

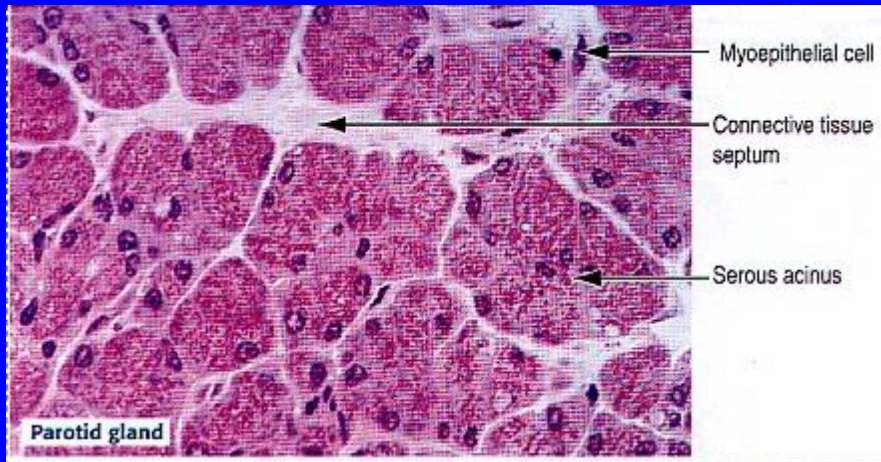


# Sublingual Gland

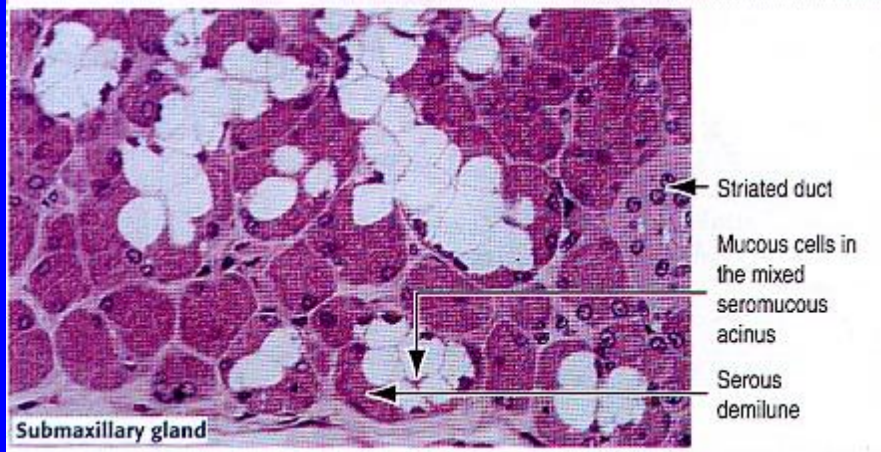
- The smallest salivary gland.
- Produces 5% of salivary output.
- Mixed but mostly mucous.
- Mucous acini are capped by serous demilunes.



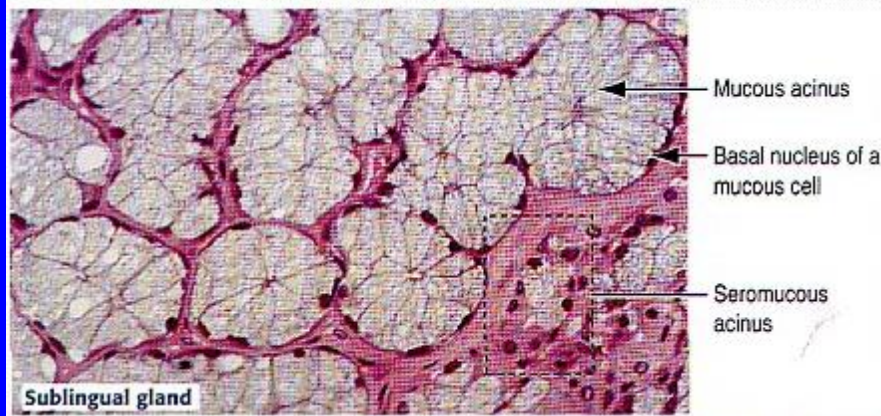




**Parotid: purely serous**



**Submandibular: mostly serous**



**Sublingual: mostly mucous**



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**THANK YOU**