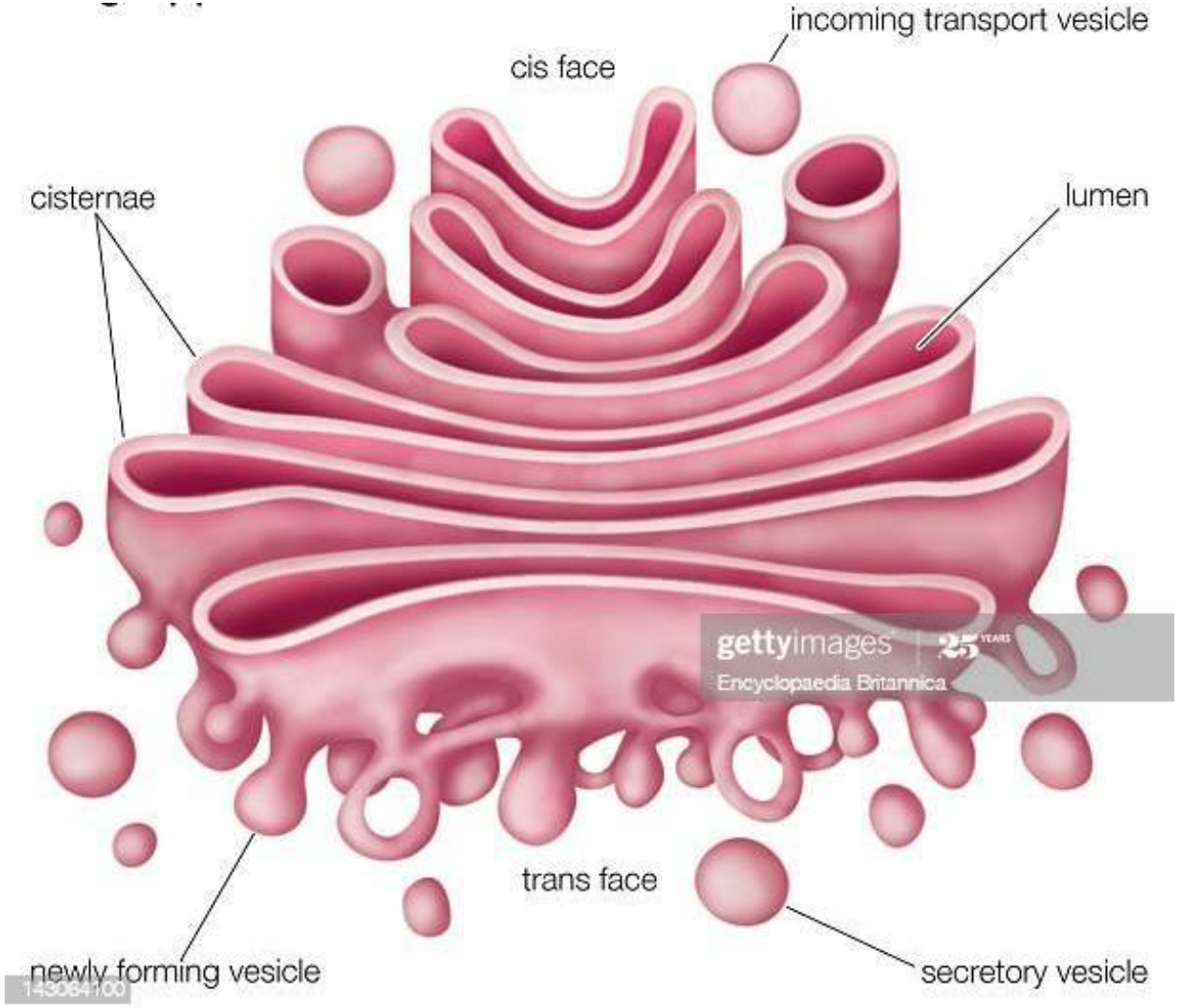
Golgi complex

Function

Dr. Rupesh B. Yadav

Asst. Prof.

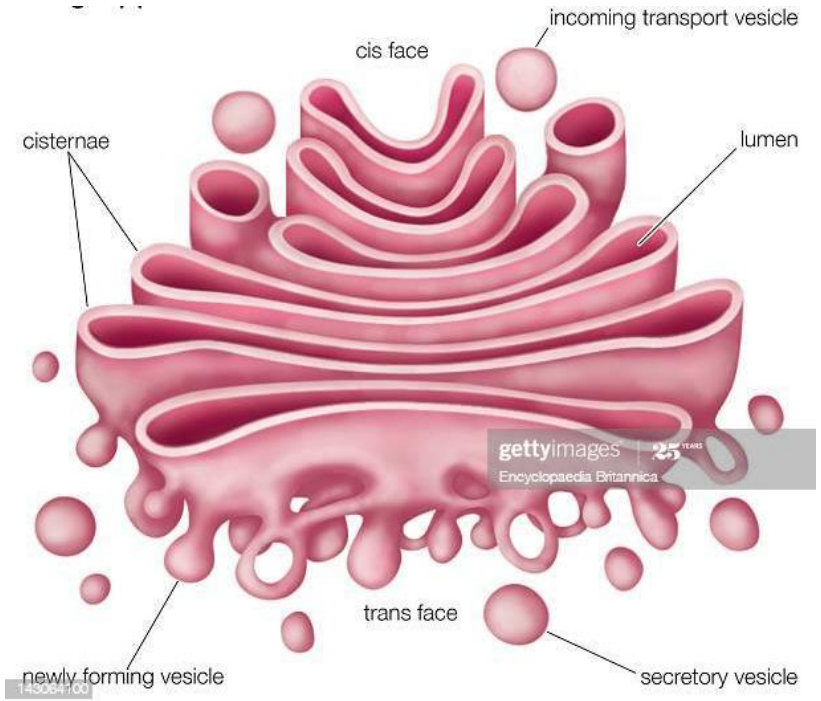
TC College, Baramati.



Function

1. Secretion

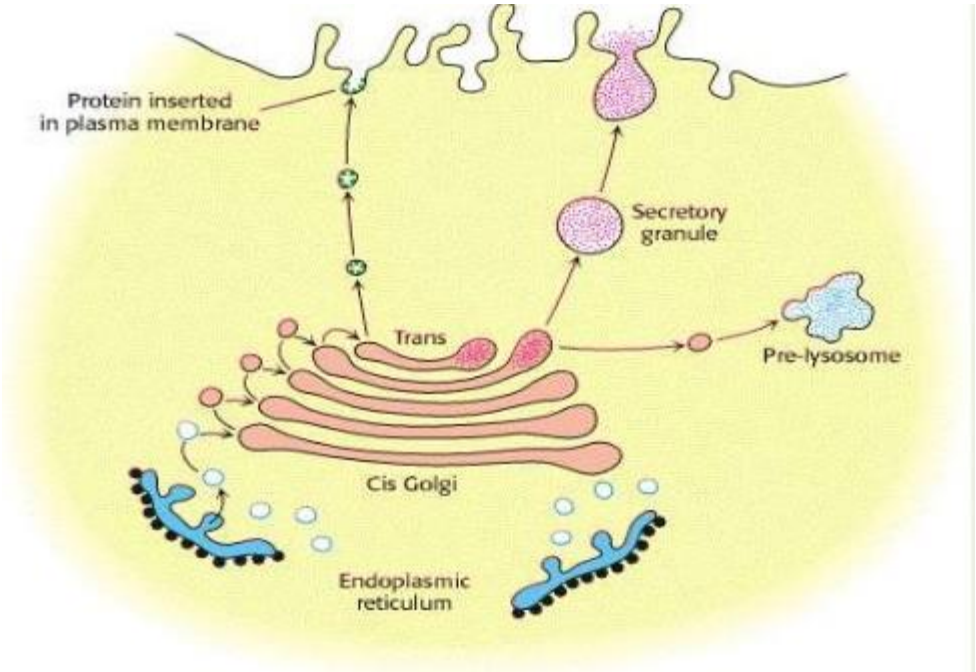
- All glandular cells depend upon Golgi complex for concentrating and packaging their products inside a soluble protein coat visible as dark staining under electron microscope. They are sent out of the cells through exocytosis or reverse pinocytosis.



Function

2. Glycoproteins and Glycolipids

- Proteins synthesized by the rough endoplasmic reticulum and lipids synthesized by smooth endoplasmic reticulum reach the cisternae of the Golgi apparatus. Here, they combine with carbohydrates to form glycoproteins and glycolipids.



Function

3. Transformation of Membranes

- Golgi complex brings about membrane transformation, that is, converting one type of membrane (e.g., that of ER) into other types (e.g., selectively permeable plasma membrane, differentiated membrane of lysosome). The complex also takes part in the recycling of plasma membrane.

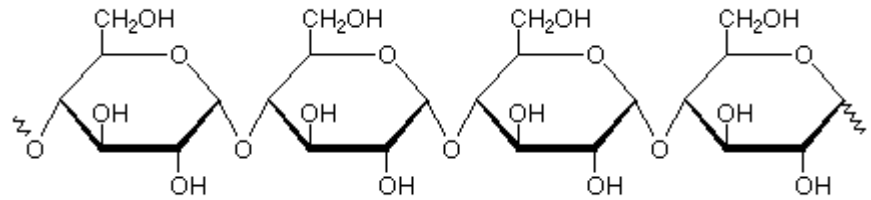
Function

4. Special Simple Carbohydrates

- Sialic acid and galactose are made inside Golgi complex

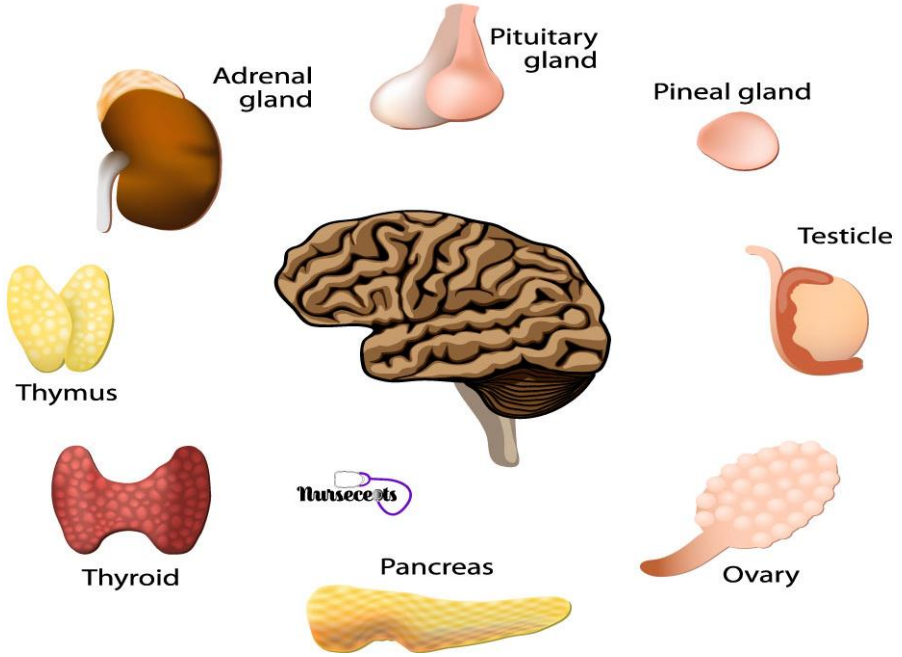
5. Complex Carbohydrates

- Most of the complex carbohydrates, other than glycogen and starch, are synthesized inside the Golgi complex, e.g., pectic compounds, mucopolysaccharides, hyaluronic acid, chondroitin sulphate, hemicelluloses, etc.



polysaccharide (amylose starch)

Function



6. Hormones

- Production of hormones by endocrine glands is mediated through it.

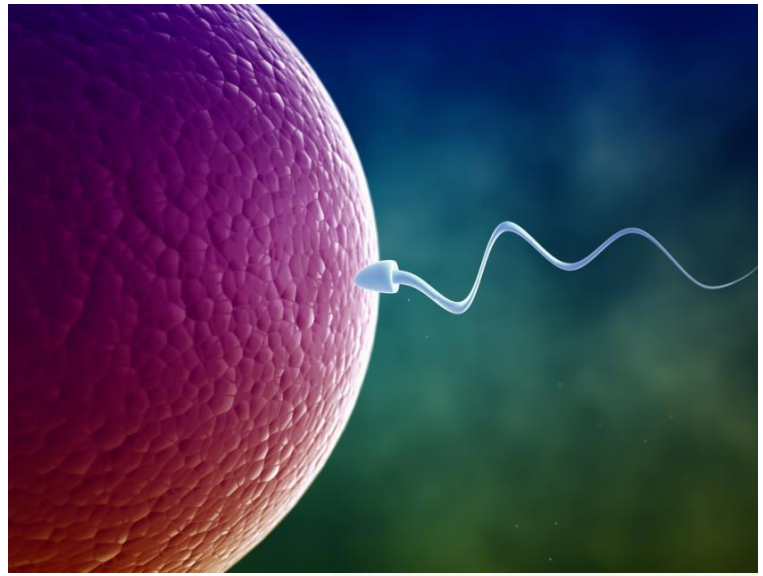
7. Matrix

- Matrix of connective tissue is formed by Golgi complex of its cells.

8. Fat Transport

- Fatty acids and glycerol absorbed by intestinal epithelium are transferred as fat to lacteal through Golgi complex.

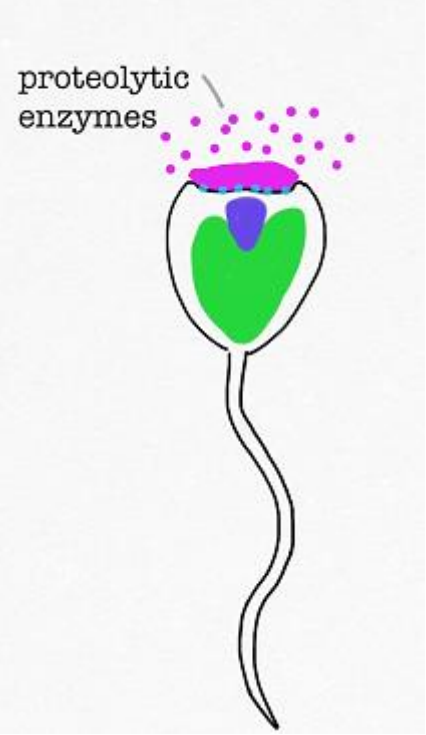
Function



9. Synthesis of Pigments

- In Chick embryo the retinal pigment has been observed to be synthesized by Golgi

10. Formation of Acrosome



- Acrosome is an important constituent of the tip of animal sperms which helps in digesting away the covering sheath of the egg or ovum during fertilization. It is synthesized by Golgi complex with the help of its vesicles.

Function

11. Vitellogenesis

- In oocytes of animals, Golgi apparatus functions as the center around which yolk is deposited. The process is called vitellogenesis.

12. Root Hair

- The formation of root hair from their mother cells is believed to take place through the agency of Golgi apparatus.

13. Formation of Lysosomes

- Some of the vesicles or vacuoles of the Golgi apparatus store digestive enzymes obtained through ER in the inactive state. They act as primary lysosomes.

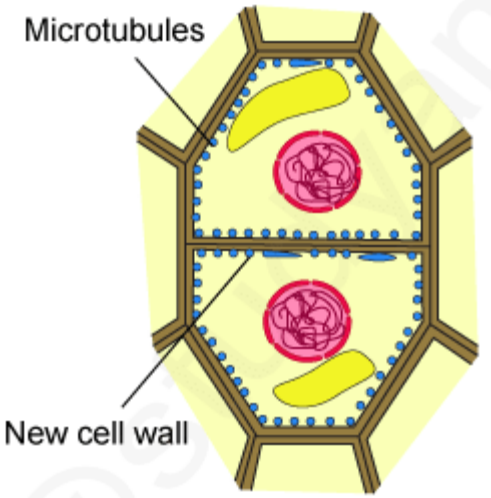
Function

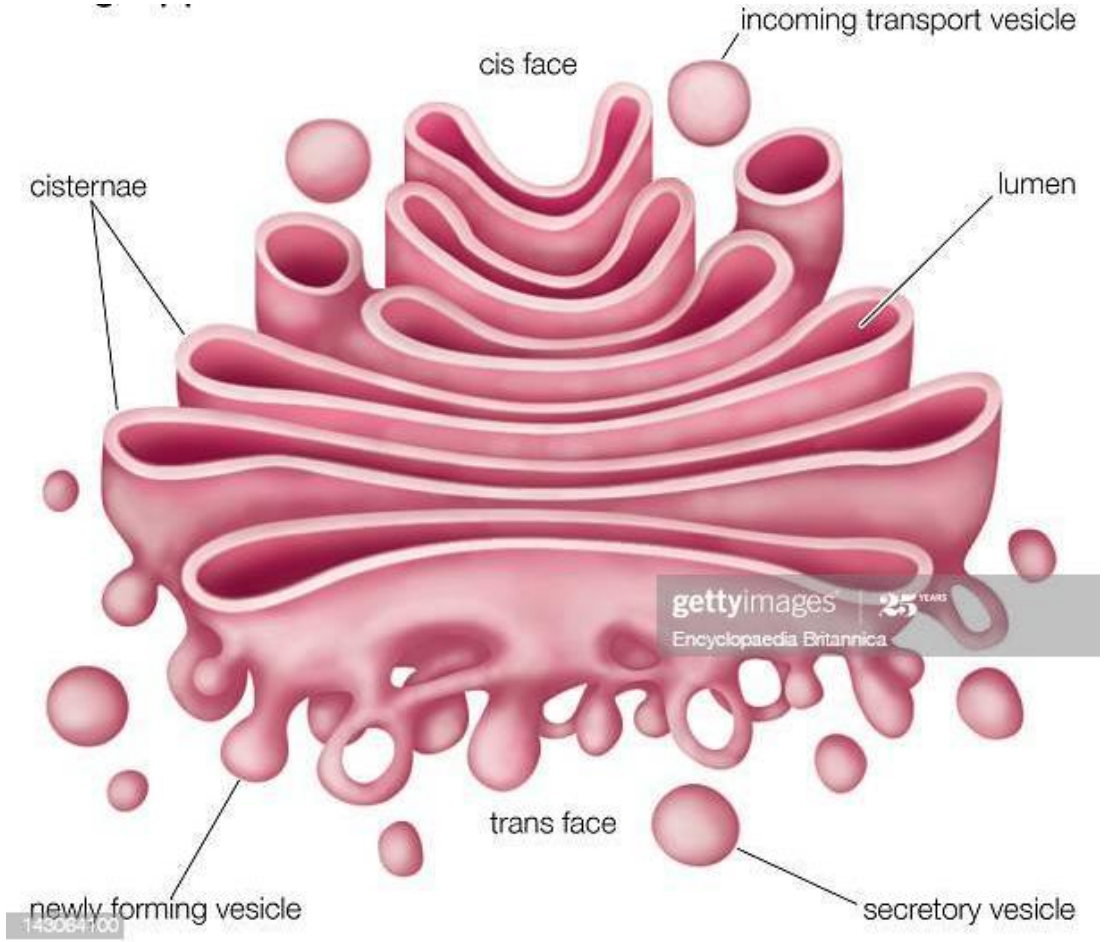
14. Formation of Plasma-lemma

- Membranes of the vesicles produced by Golgi apparatus join in the region of cytokinesis to produce new plasma-lemma.

15. Formation of New Cell Wall

- Pectic compounds of middle lamella and various polysaccharides of the cell wall are secreted by Golgi complex. They are brought to the area of new wall synthesis by secretion vesicles.





Thank You