Topic: Cell Organelles
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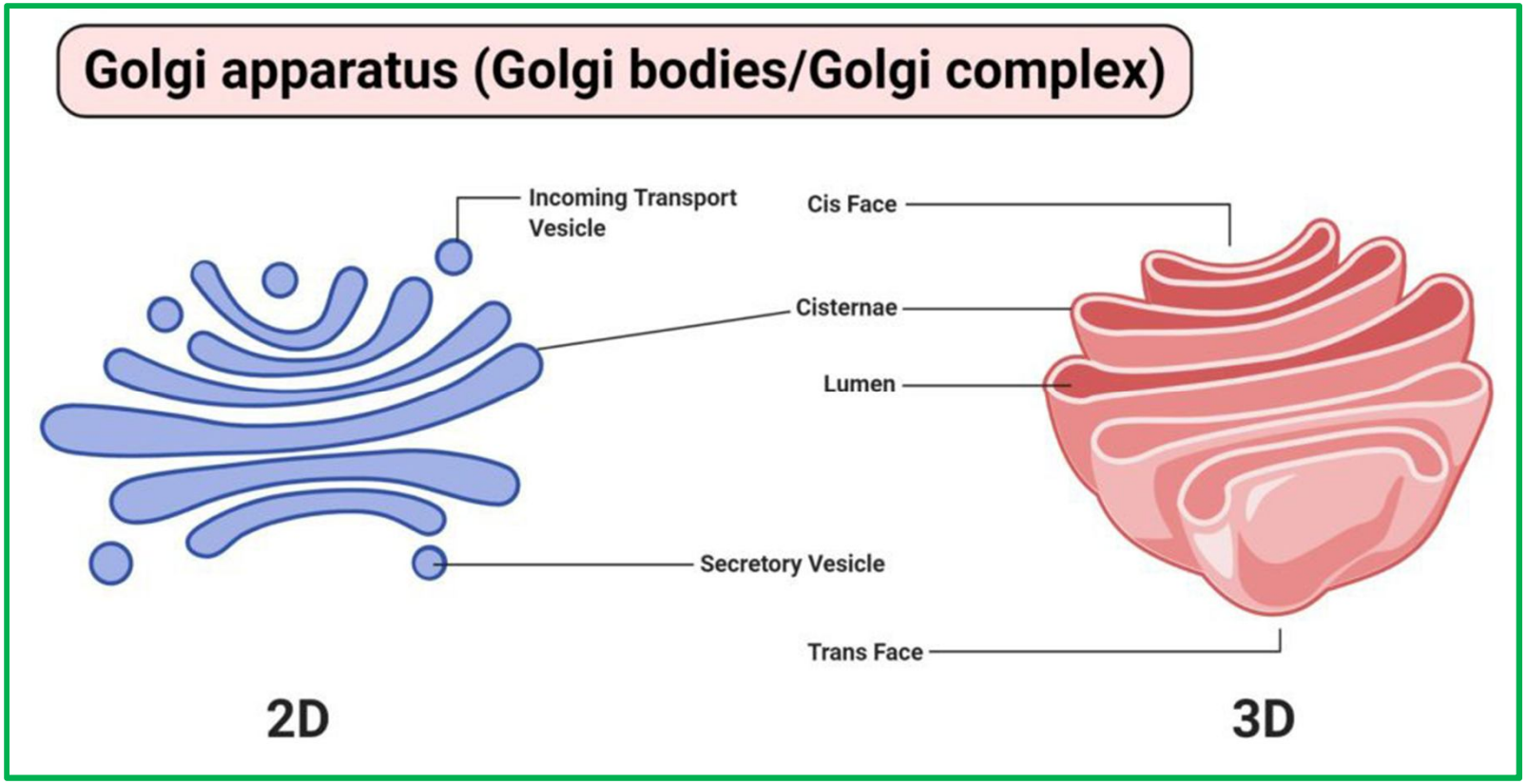
Golgi Apparatus

The Golgi Apparatus is the cell organelle mostly present in eukaryotic cells which is responsible for the packaging of macromolecules into vesicles so that they can be sent out to their site of action.

Structure

- The structure of the Golgi Complex is pleomorphic; however, it typically exists in three forms, i.e. cisternae, vesicles, and tubules.
- The cisternae, which is the smallest unit of Golgi Complex, has a flattened sac-like structure which is arranged in bundles in a parallel fashion.
- Tubules are present as tubular and branched structures that radiate from the cisternae and are fenestrated at the periphery.


Golgi apparatus (Golgi bodies/Golgi complex)
Incoming Transport Vesicle
Cisternae
Secretory Vesicle
Cis Face
Lumen
Trans Face
2D
3D

- Vesicles are spherical bodies that are divided into three groups as transitional vesicles, secretory vesicles, and clathrin-coated vesicles.

Functions

- Golgi Complex has an essential purpose of directing proteins and lipids to their destination and thus, act as the “traffic police” of the cell.
- They are involved in the exocytosis of various products and proteins like zymogen, mucus, lactoprotein, and parts of the thyroid hormone.
- Golgi Complex is involved in the synthesis of other cell organelles like a cell membrane, lysozymes, among others.
- They are also involved in the sulfation of various molecules.