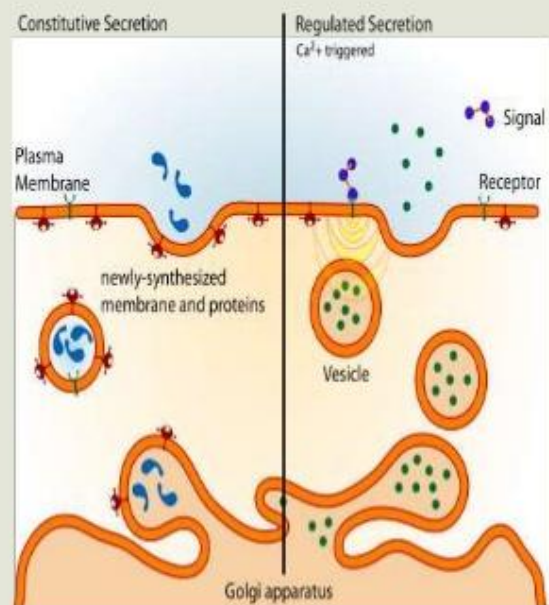


## Transport from the Golgi apparatus

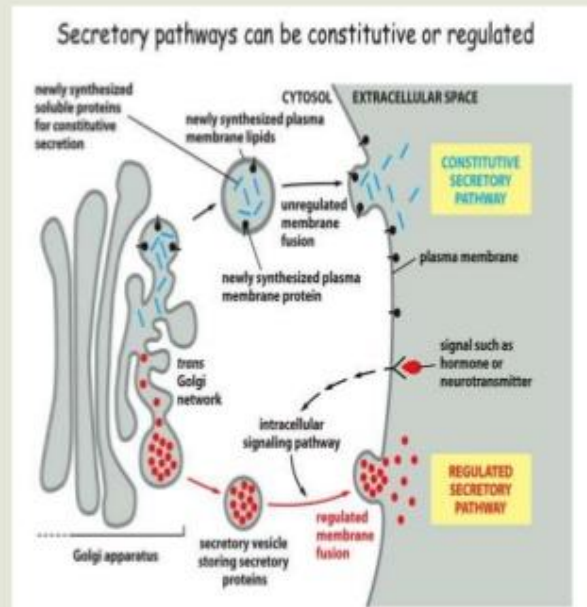
- Transport from golgi takes place by two pathways.

1. Constitutive secretory pathway
2. Regulated secretory pathway



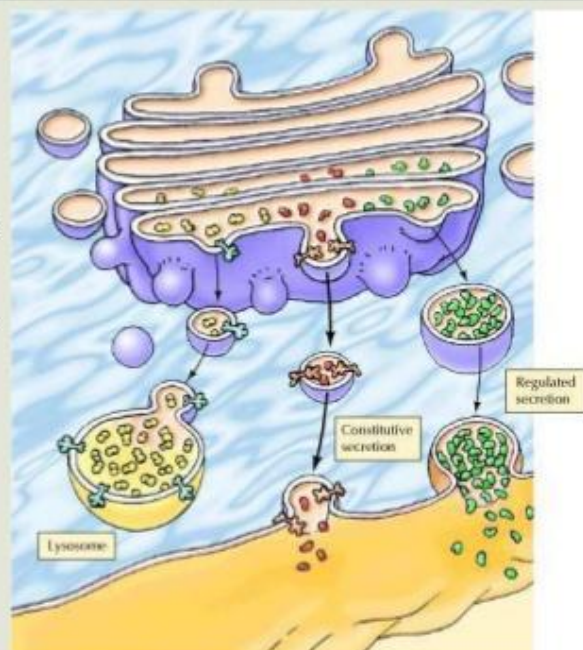
## a. Constitutive secretory pathway

- Proteins are secreted from a cell continuously, regardless of external signals or factors.
- Proteins are stored in vesicles in the Golgi and move directly to the cell surface and fuse with the PM and release the soluble proteins.



## b. Regulated secretory pathway:-

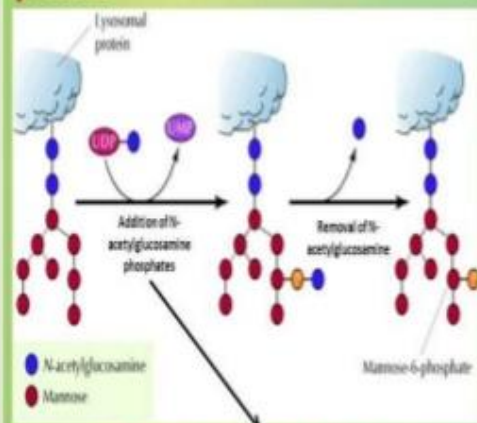
- A distinct regulated secretory pathway in which specific proteins are secreted in response to environmental signals.
- Proteins are sorted in trans Golgi network and packed into secretory vesicles.
- These secretory vesicles are usually larger than other transport vesicles.
- And stored until specific signals are received, then fuses with plasma membrane to release the proteins.



## Selective transport of proteins to lysosomes


- The process of protein sorting in the Golgi → lysosomes through selective transport of proteins.
- Then proteins are modified by 'mannose phosphorylation' → **in cis Golgi network**.
- These phosphorylated mannose molecules are specifically recognized by a 'mannose-6-phosphate receptor' → **in *trans* Golgi network**

### Processing of luminal lysosomal proteins






The enzyme recognizes a signal patch (a three-dimensional structural determinant) not a sequence.

## SECRETION

- Golgi complex plays an important role in secretion.
-  Production of proteoglycans

## APOPTOSIS

-  Golgi has a putative role in apoptosis
-  A newly characterized protein (Golgi anti-apoptotic protein) almost exclusively resides the Golgi and protects cells from apoptosis
-  As yet it is an undefined mechanism

## SYNTHESIS

- ➔ It is also major site of carbohydrate synthesis .
- ➔ Includes synthesis of glycoasaminoglycans (GAGs)
- ➔ Golgi attaches to polysaccharides and protein to form proteoglycans