

Endomembrane System

Membranes within the eukaryotic cell that work together to modify, process and ship molecules around and out of the cell.

Endomembrane System

- All made of phospholipid bilayer
- Includes:
 - Nuclear envelope
 - Rough ER
 - Smooth ER
 - Transport vesicles
 - Golgi apparatus
 - Lysosomes
 - Secretory vesicles

A diagram illustrating the protein secretion pathway. At the bottom, a nucleus is shown with a rough endoplasmic reticulum (ER) containing ribosomes. Arrows indicate the flow of protein from the ER through the Golgi apparatus (a stack of yellow and orange sacs) to secretory vesicles (orange spheres). These vesicles then fuse with the plasma membrane to release the protein (blue Y-shaped structures) outside the cell. Callout boxes provide detailed descriptions of each stage.

Secretory vesicle merges with the plasma membrane and the protein is released via exocytosis.

Completed protein is packaged into secretory vesicles for release from the cell or stored in lysosomes if used inside the cell.

Vesicle fuses with the Golgi and protein is modified as it passes through.

Protein is packaged into transport vesicles and travels to the Golgi along the cytoskeleton "track"

Protein is synthesized on ribosomes and transported in channels of the ER.

What about Ribosomes?

ATTACHED TO ER

Makes proteins that are stored in vesicles or released from the cell.

FREE FLOATING IN CYTOPLASM

Makes proteins that are used immediately in the cytoplasm.

