

Extracellular space

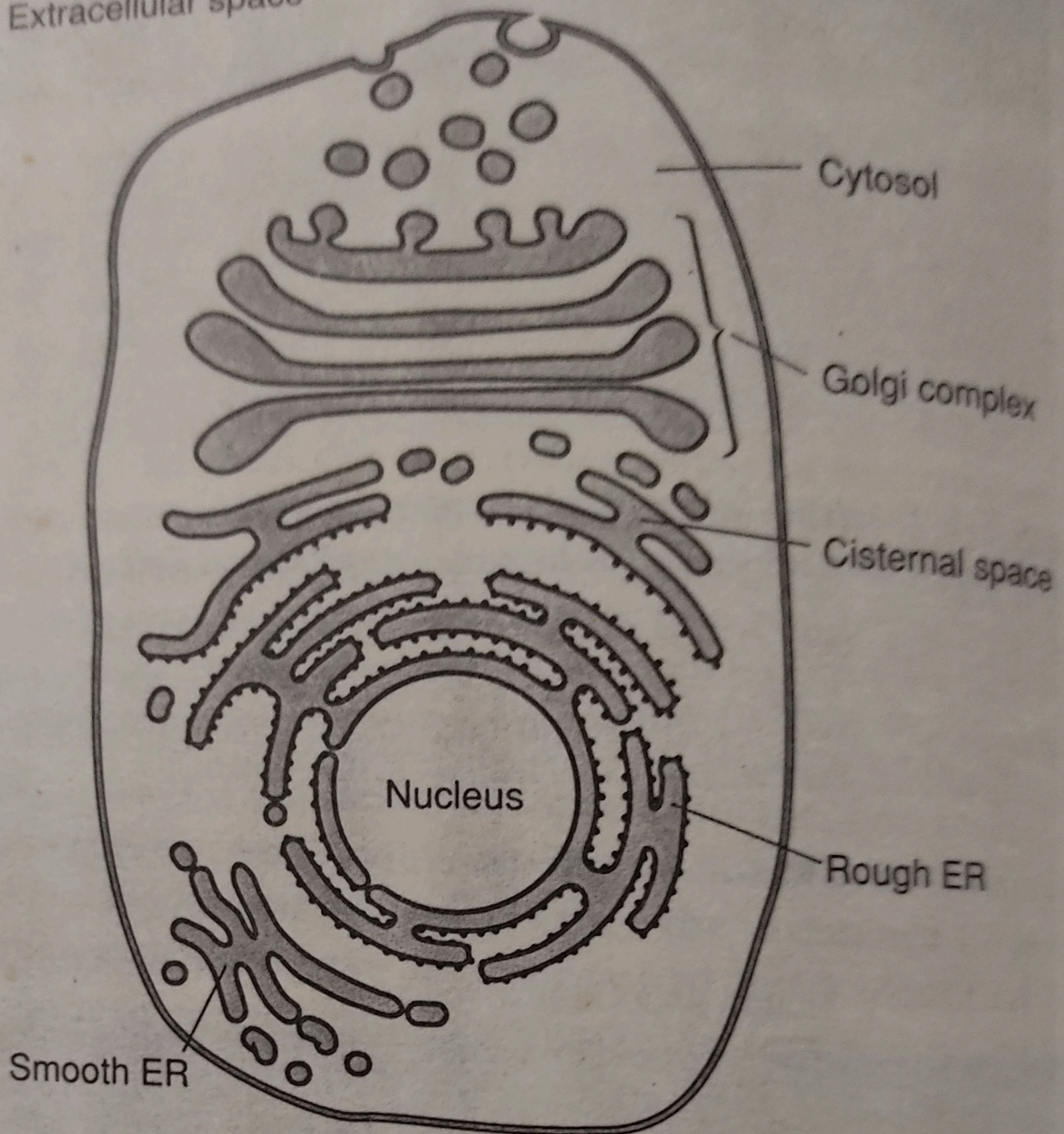


Figure 7-4 Diagram Illustrating How the Endoplasmic Reticulum Divides the Cytoplasm into Two Compartments, the Cisternal Space and the Cytosol *Functional continuity between the cisternal spaces of the ER, Golgi complex, and cytoplasmic vesicles is maintained by membrane vesicles that bud off from one membrane system and fuse with another.*

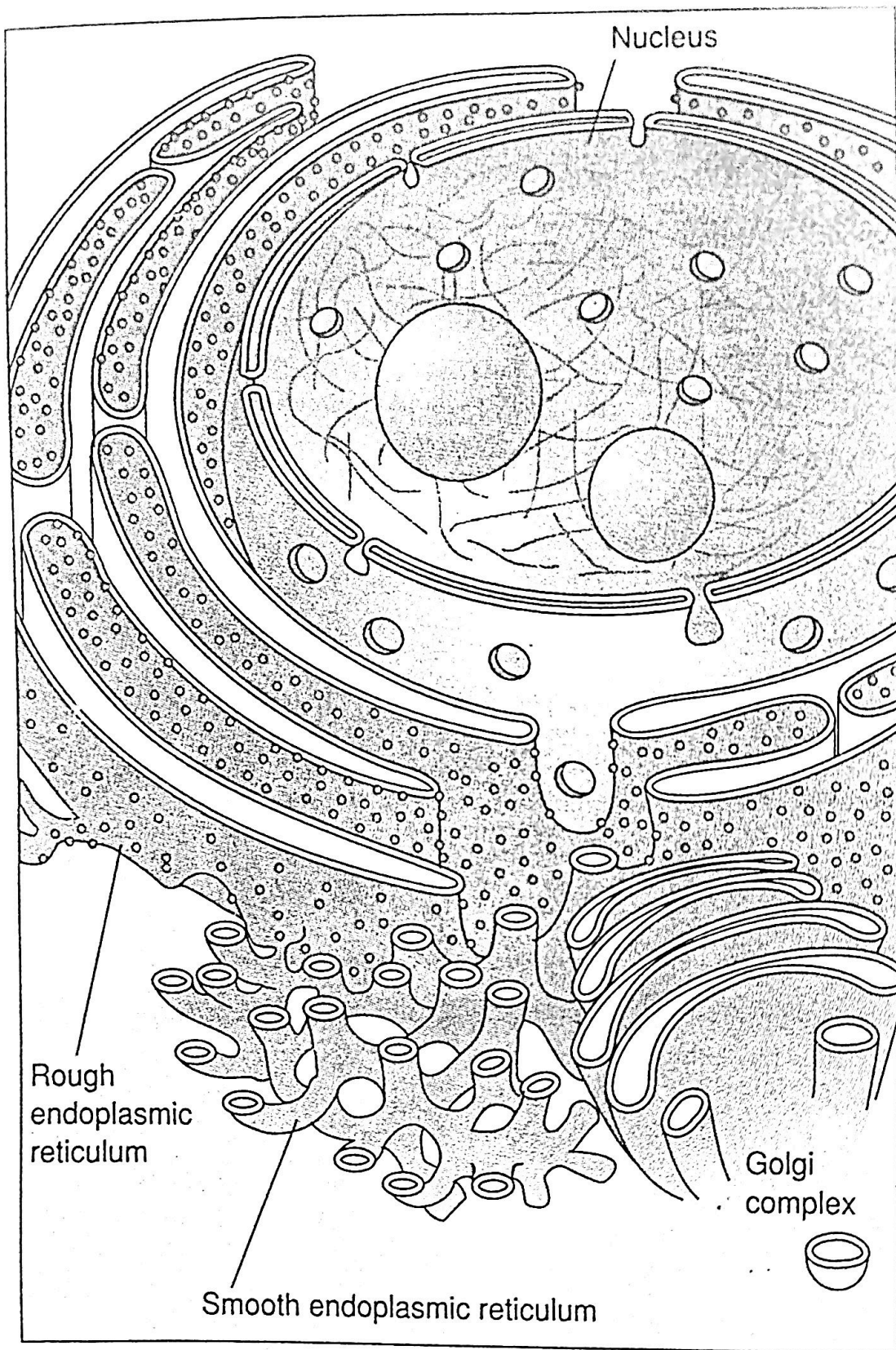


Figure 7-3 Three-Dimensional Representation of the Endoplasmic Reticulum and Golgi Complex in an Intact Cell

Although the endoplasmic reticulum look like a series of separate, membrane-enclosed spaces in thin-section electron micrographs, it actually represents an interconnected network of membrane-enclosed compartments.

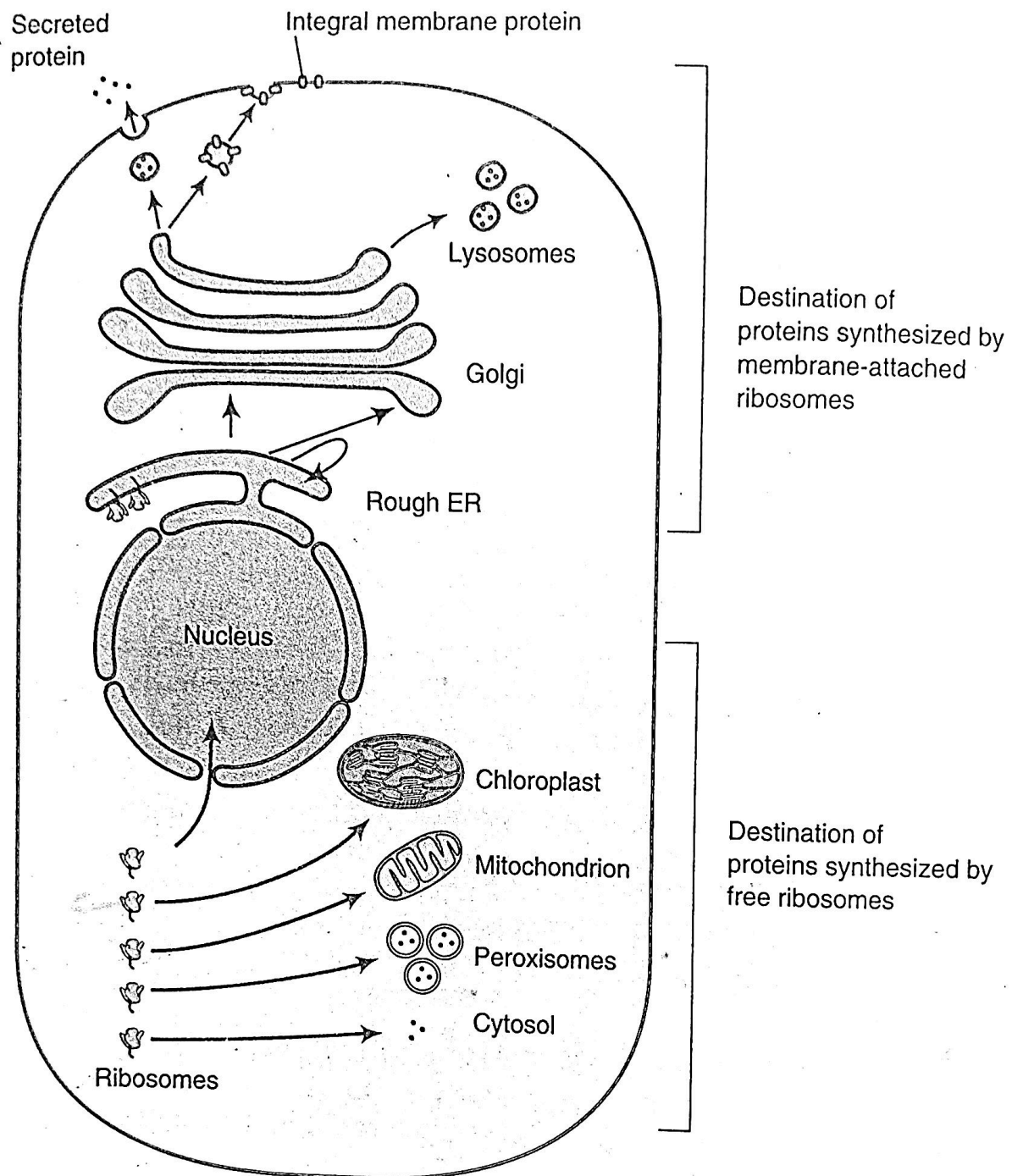
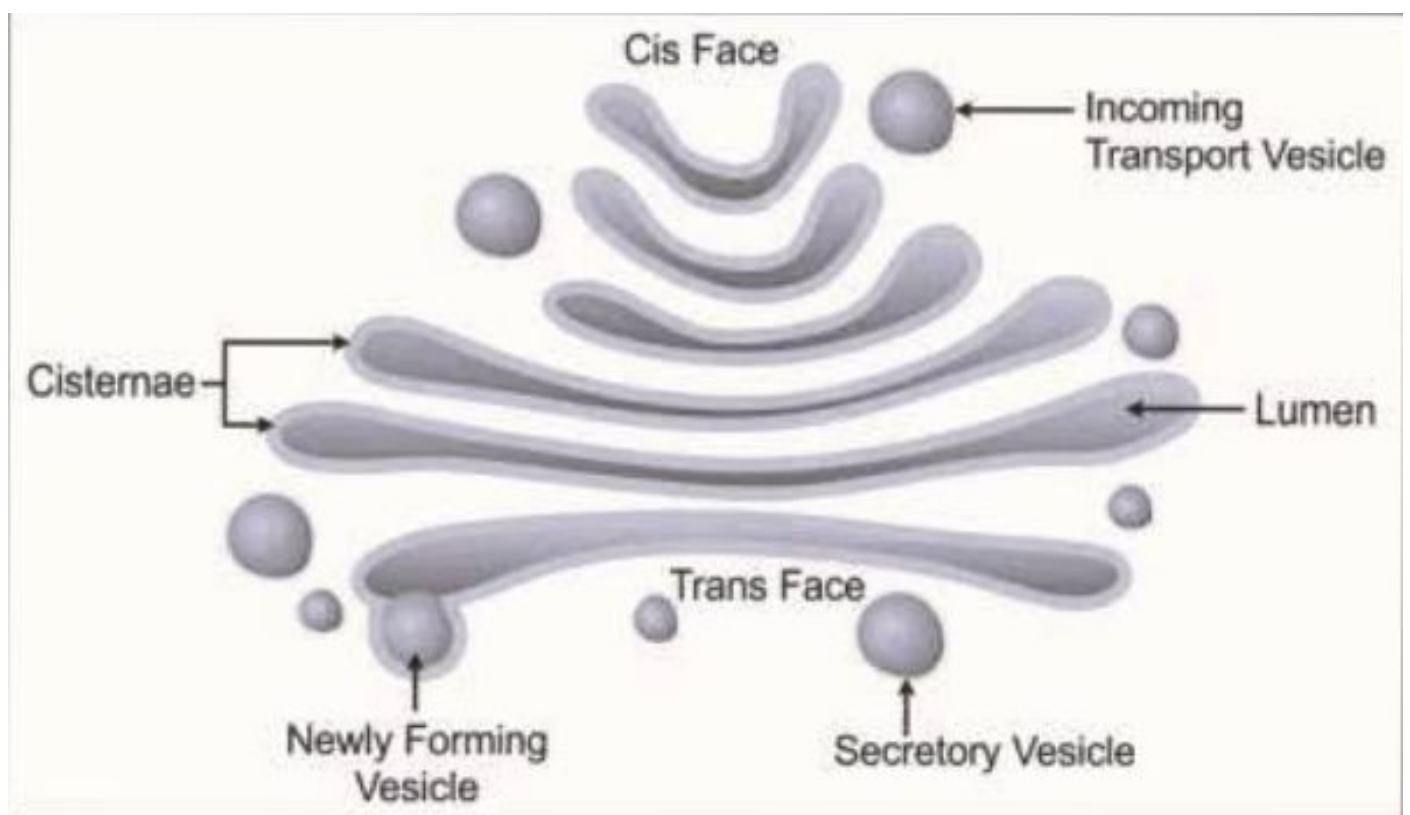


Figure 7-10 Protein Targeting Signals Each class of cellular protein has a signal within its amino acid sequence that targets the protein to its correct destination. Proteins synthesized on ribosomes attached to the rough ER are targeted for the ER, Golgi complex, lysosomes, plasma membrane, and secretion from the cell. Proteins synthesized on free ribosomes are released into the cytosol and can be targeted for incorporation into mitochondria, chloroplasts, peroxisomes, and the nucleus.



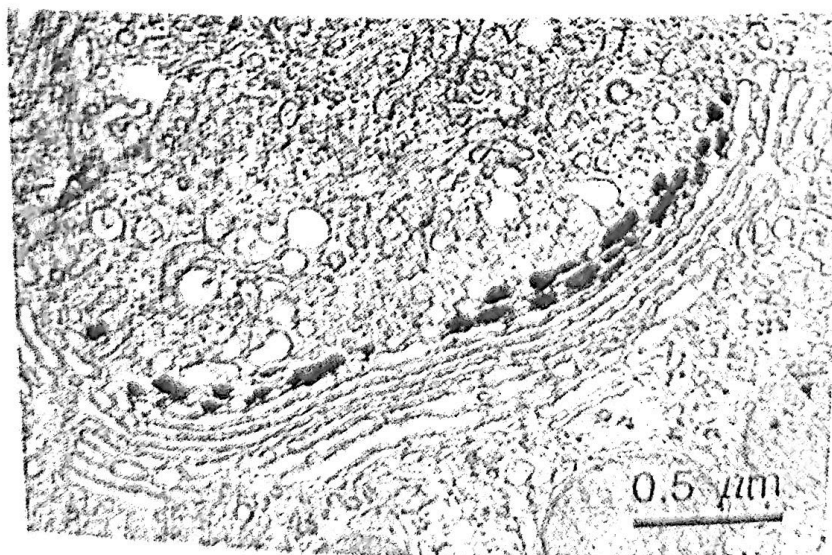
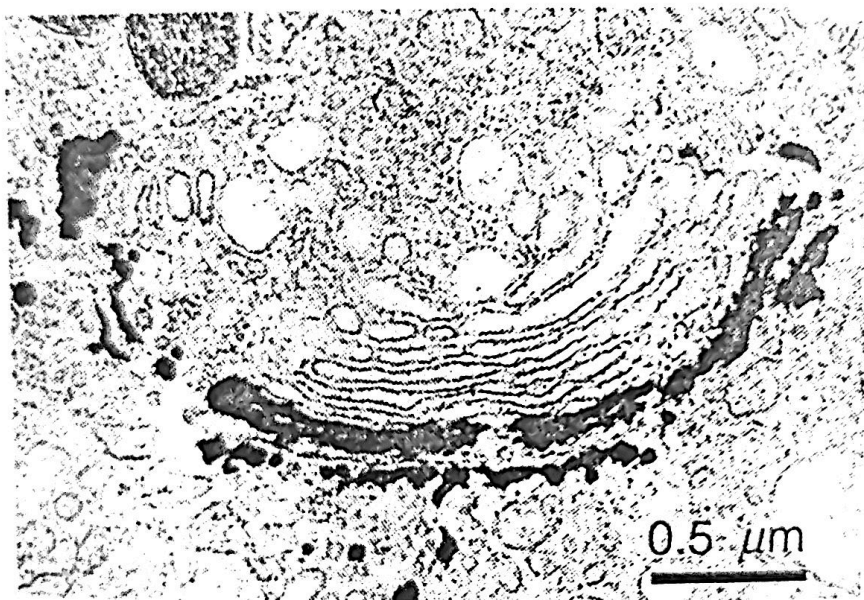
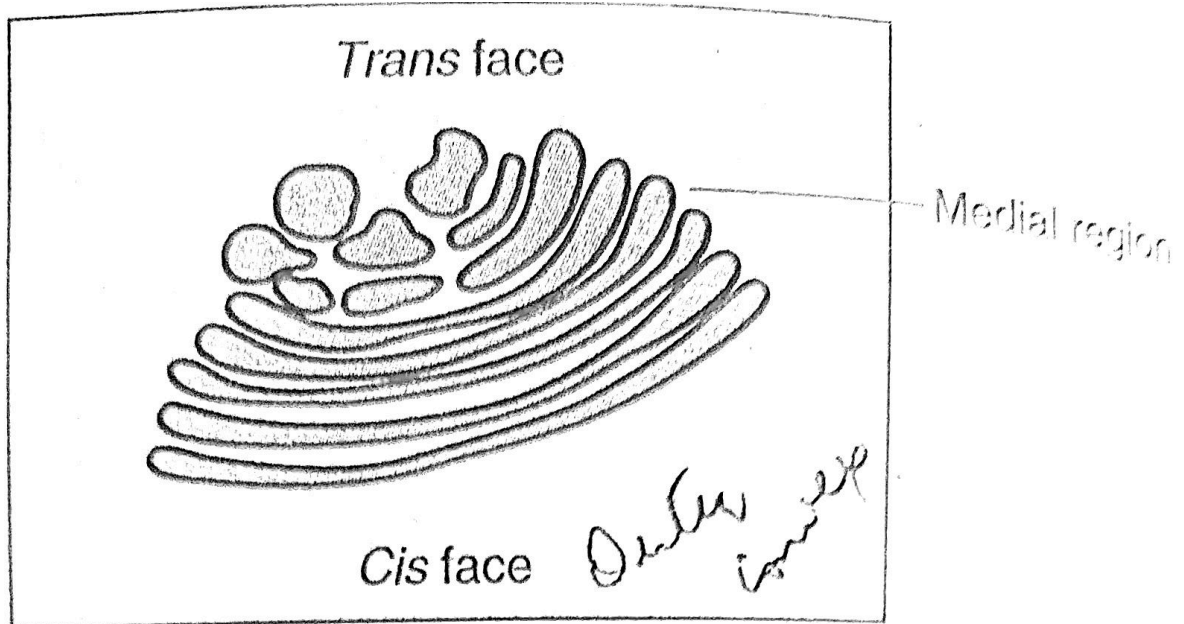


Figure 7-20 Polarity of the Golgi Complex (Top).
to refer

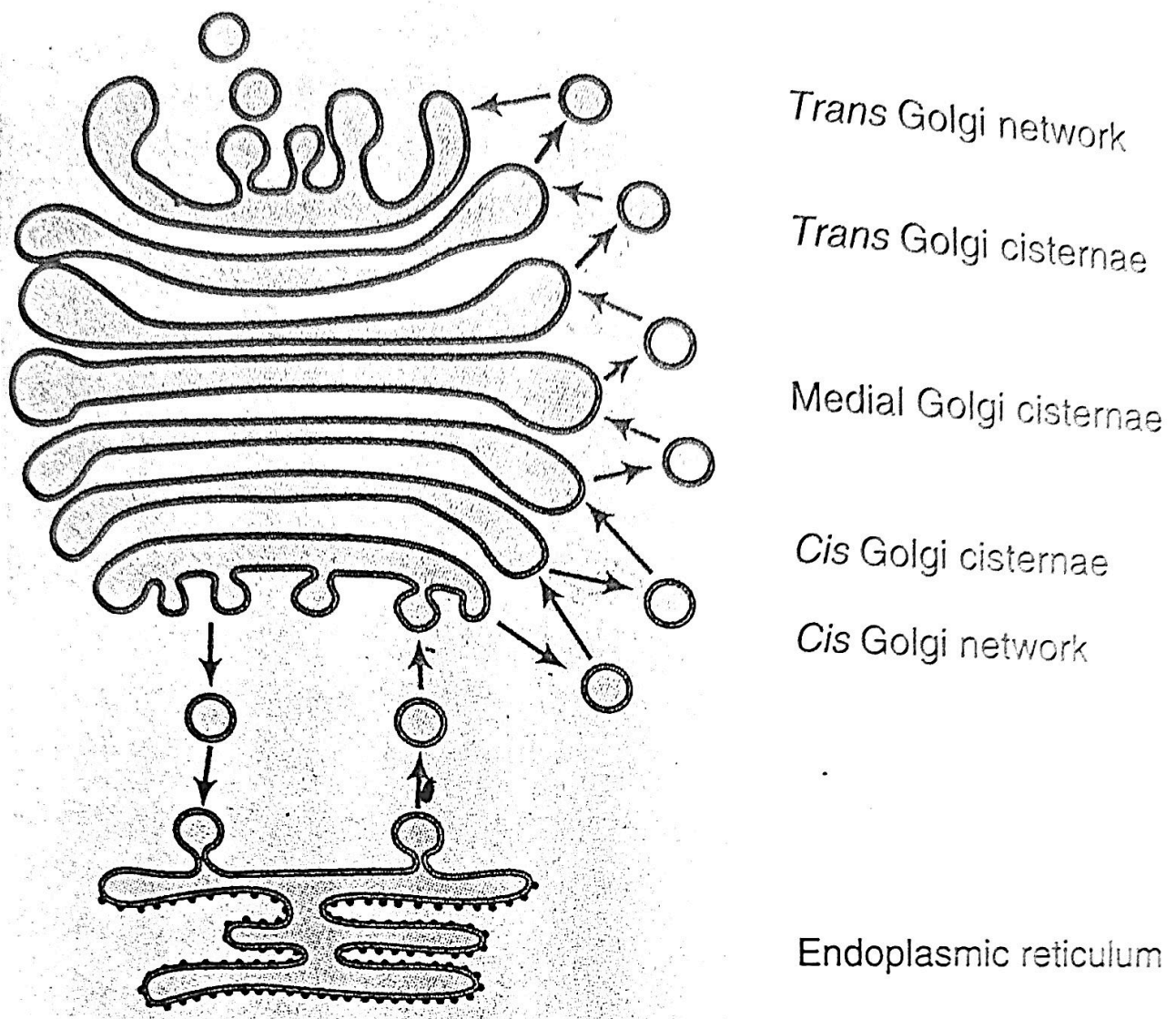


Figure 7-25 Patterns of Vesicle Traffic in the Golgi

Complex *The forward movement of materials through the Golgi cisternae (red arrows) is inhibited in cells treated with the drug brefeldin A, which disrupts the organization of the Golgi cisternae. Under such conditions the reverse flow of materials from the cis Golgi network back to the ER predominates (black arrows).*

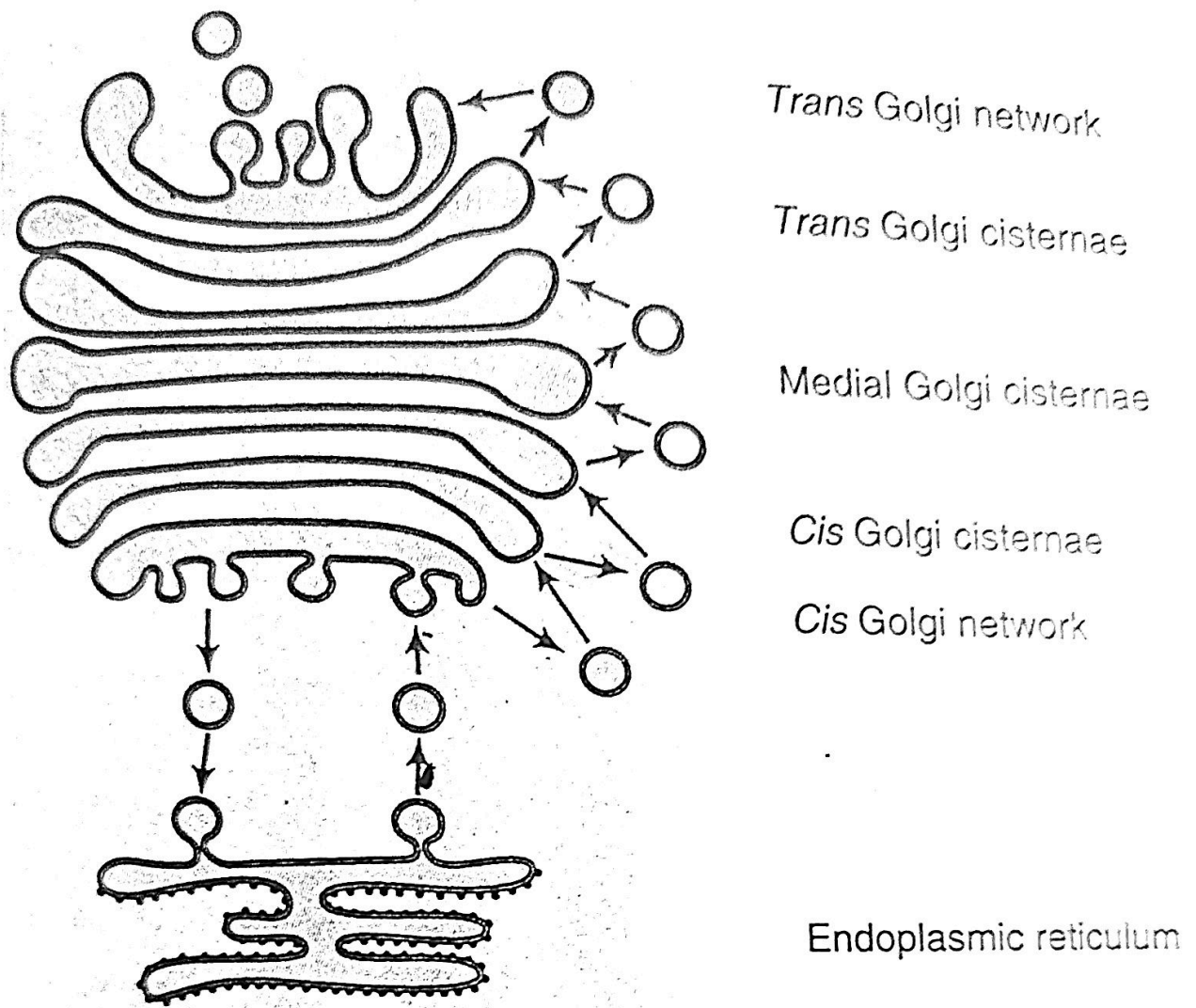


Figure 7-25 Patterns of Vesicle Traffic in the Golgi Complex *The forward movement of materials through the Golgi cisternae (red arrows) is inhibited in cells treated with the drug brefeldin A, which disrupts the organization of the Golgi cisternae. Under such conditions the reverse flow of materials from the cis Golgi network back to the ER predominates (black arrows).*

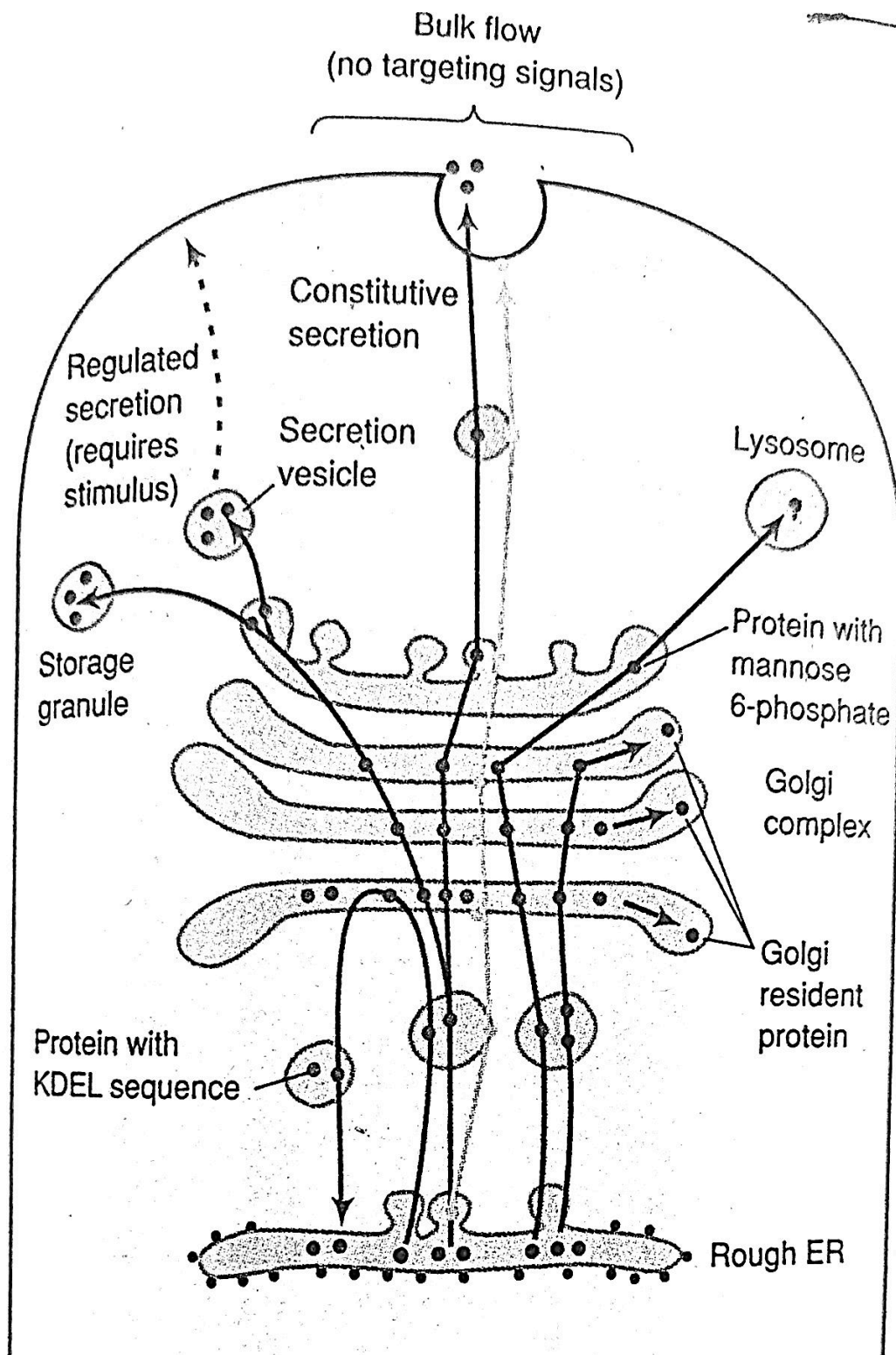
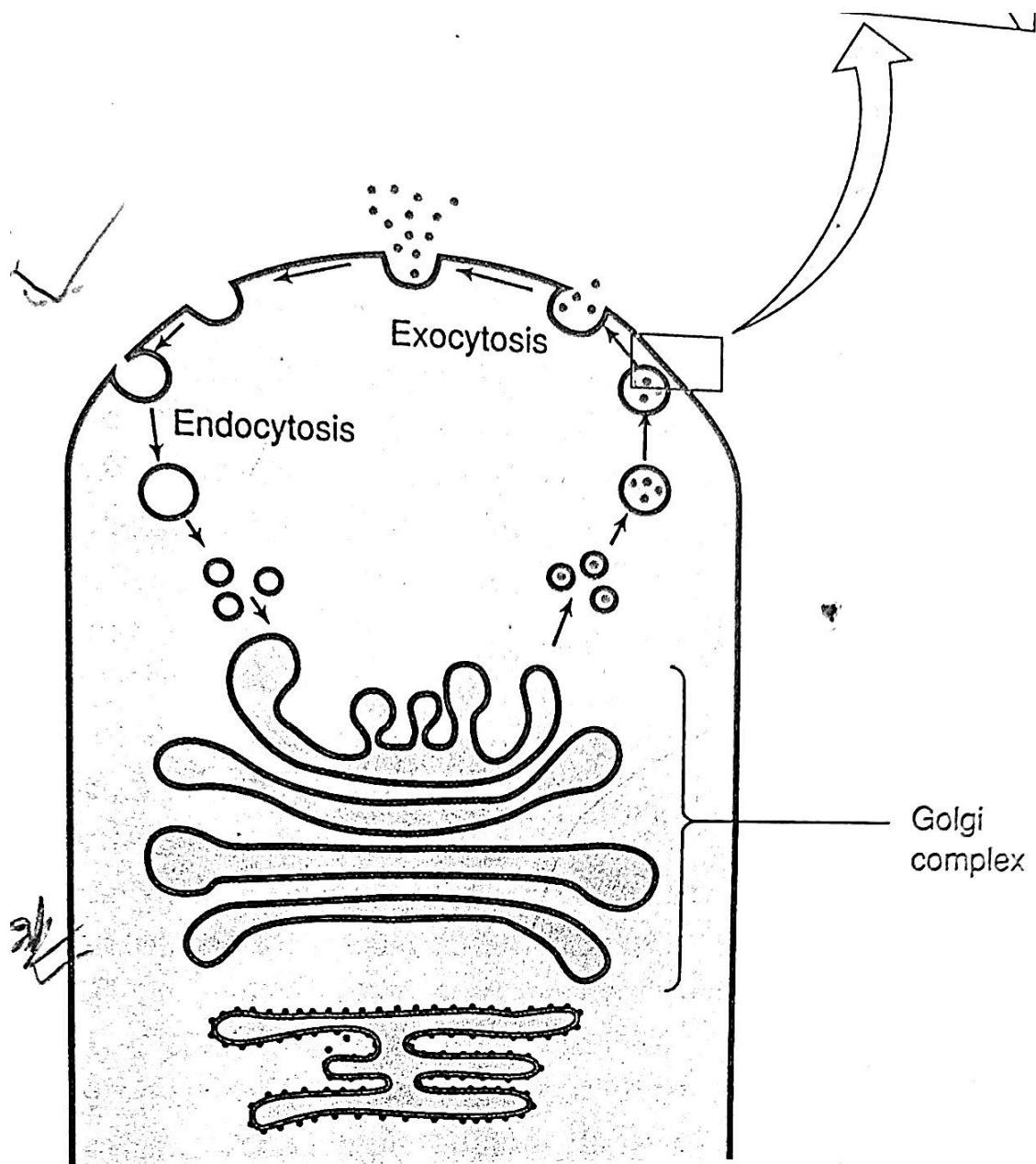


Figure 7-27 Protein Sorting in the Golgi Complex Molecules that lack targeting signals are continuously carried by bulk flow to the cell surface. Other proteins are targeted to various cellular locations by the presence of specific chemical signals. The two best characterized signals are KDEL, which targets proteins to the ER, and mannose 6-phosphate, which targets proteins to lysosomes.



✓ **Figure 7-31 Membrane Recycling between the Golgi Complex and the Plasma Membrane** In secretory cells, membranes derived from secretory vesicles are incorporated into the plasma membrane during the process of exocytosis. To prevent uncontrolled expansion of the plasma membrane, vesicles invaginate and bud off from the cell surface, migrate back to the Golgi complex, and fuse with Golgi cisternae or their associated membranes. The enlarged area of the diagram illustrates how a vesicle membrane may recognize the proper target membrane prior to membrane fusion. According to this model, a protein in the vesicle membrane (*v*-SNARE) recognizes a protein in the target membrane (*t*-SNARE). NSF and SNAPs are proteins that mediate the fusion of the vesicle and target membranes once the two membranes have become attached.

