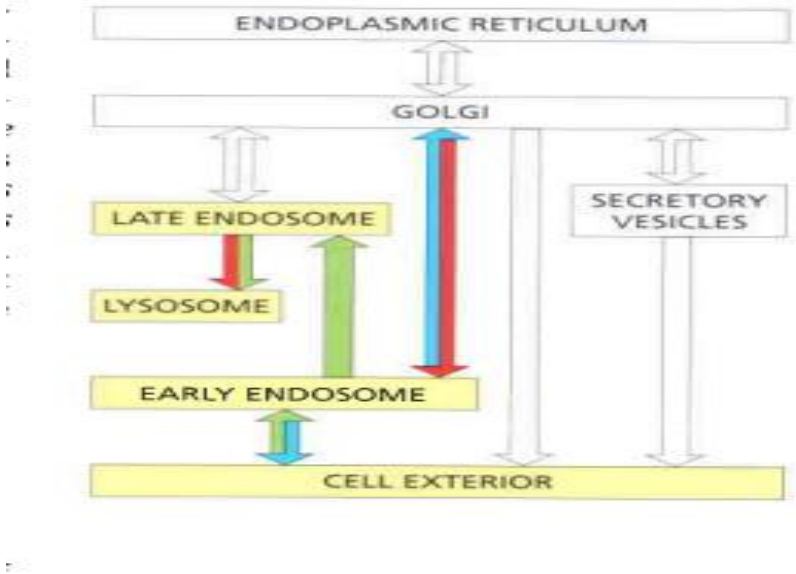
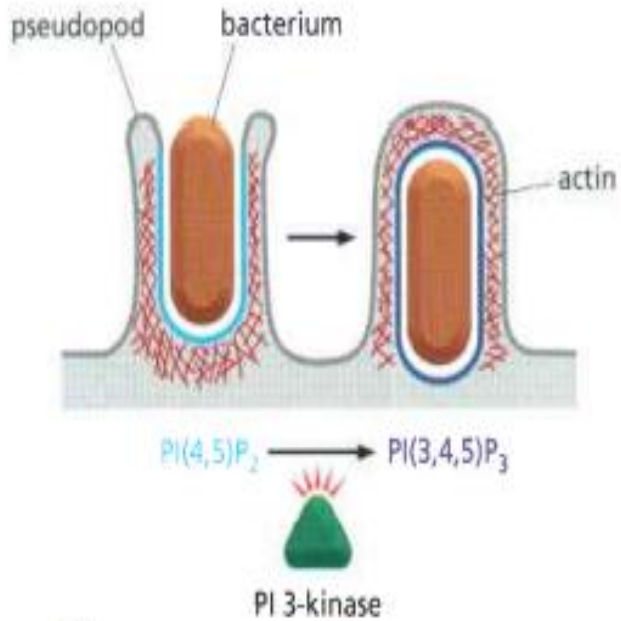
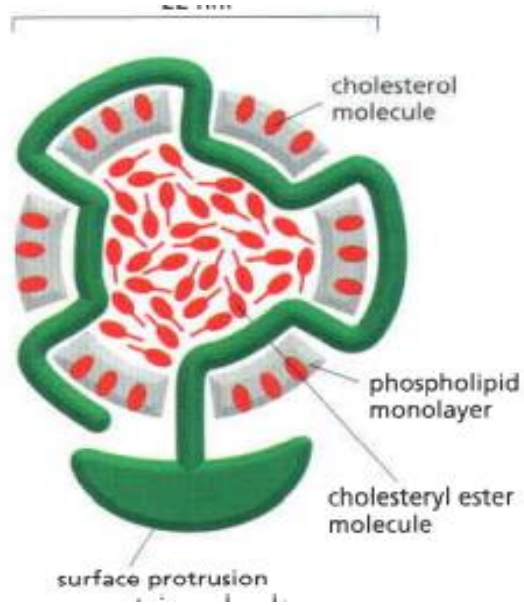
Protein trafficking 3

Endocytosis

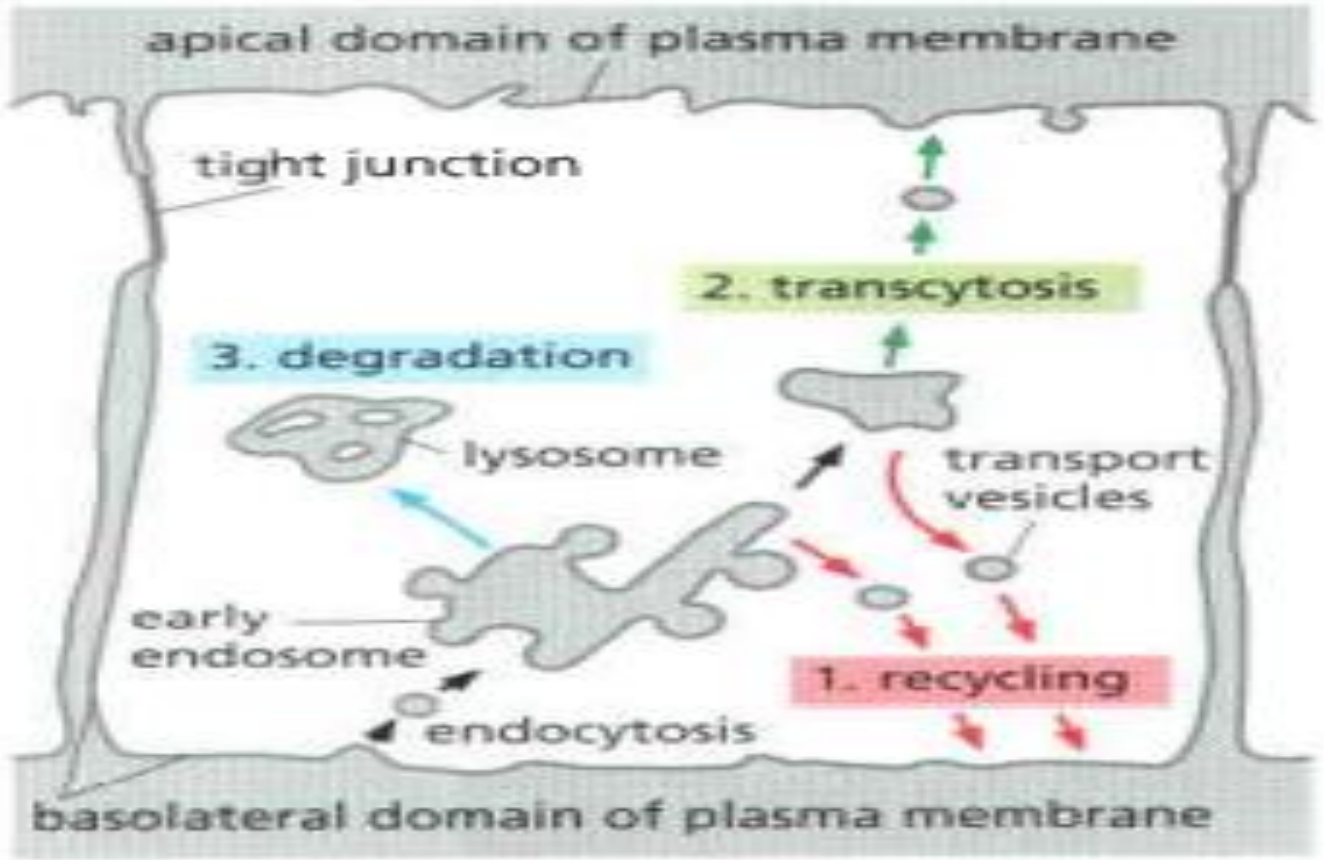




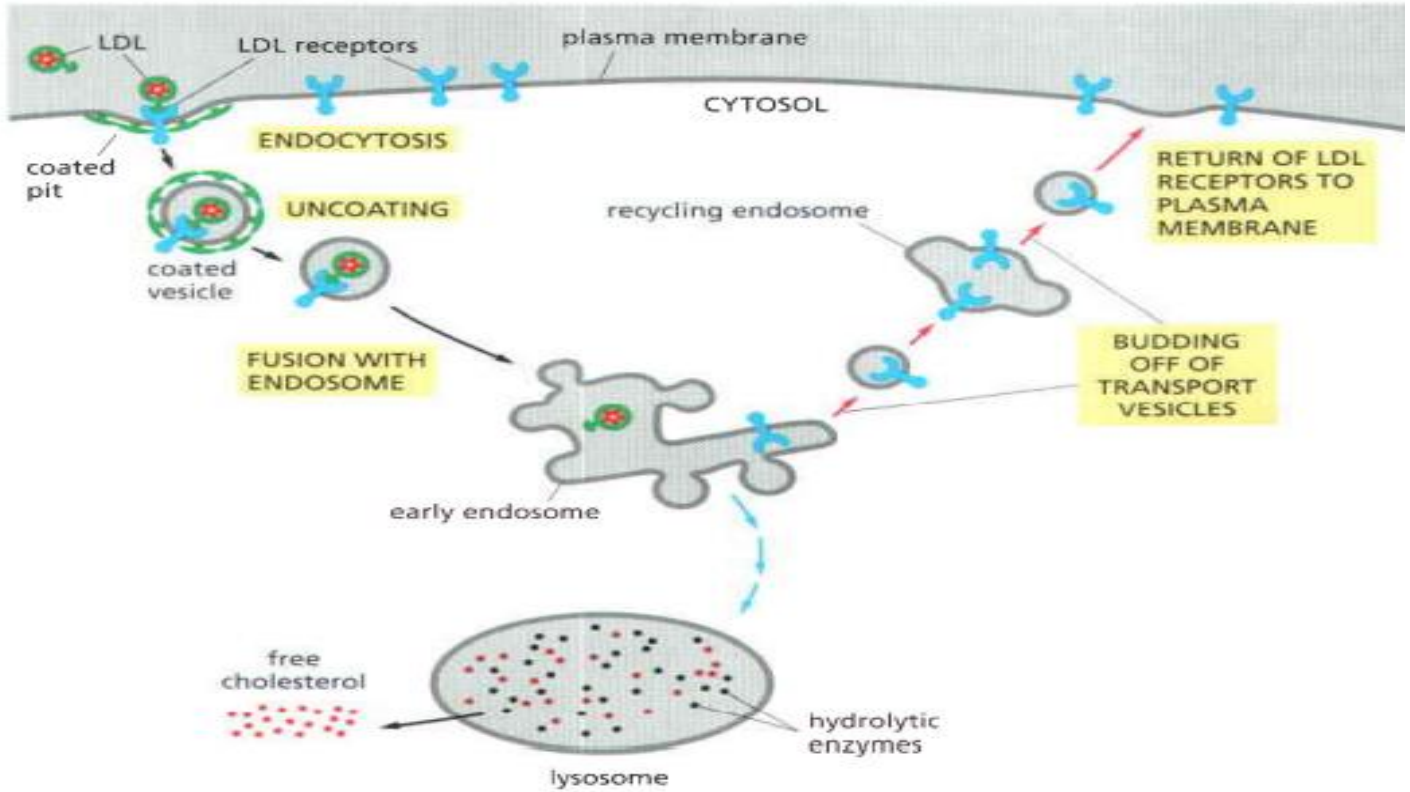
(B)


cholesterol molecule
phospholipid monolayer
cholesteryl ester molecule
surface protrusion

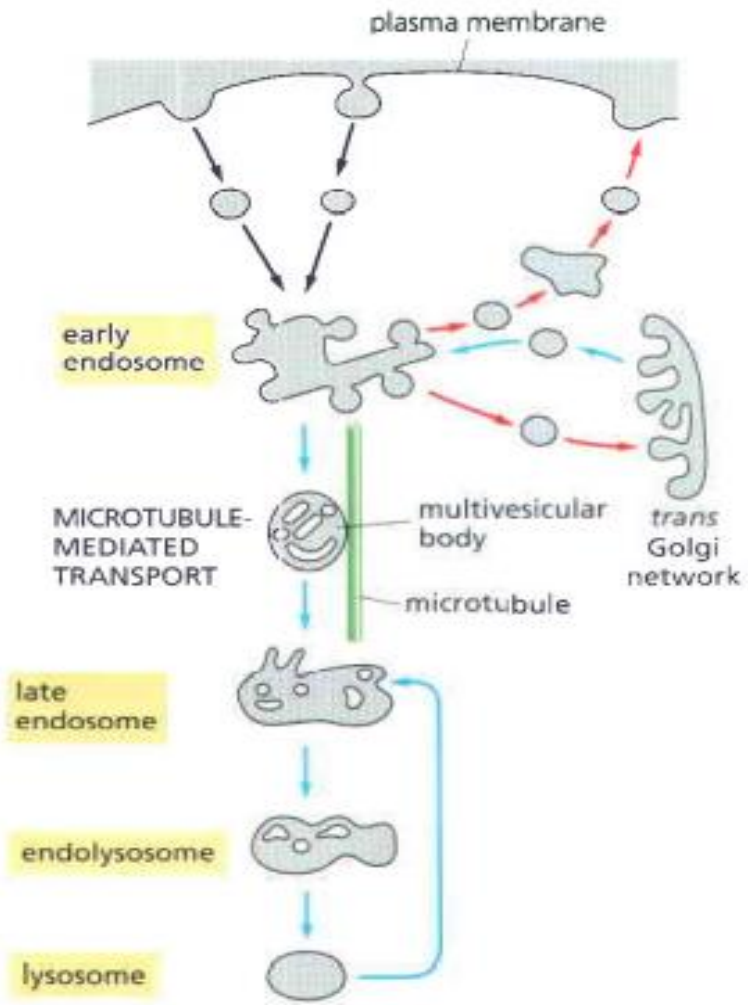
Possible fates for transmembrane receptor proteins that have been endocytose



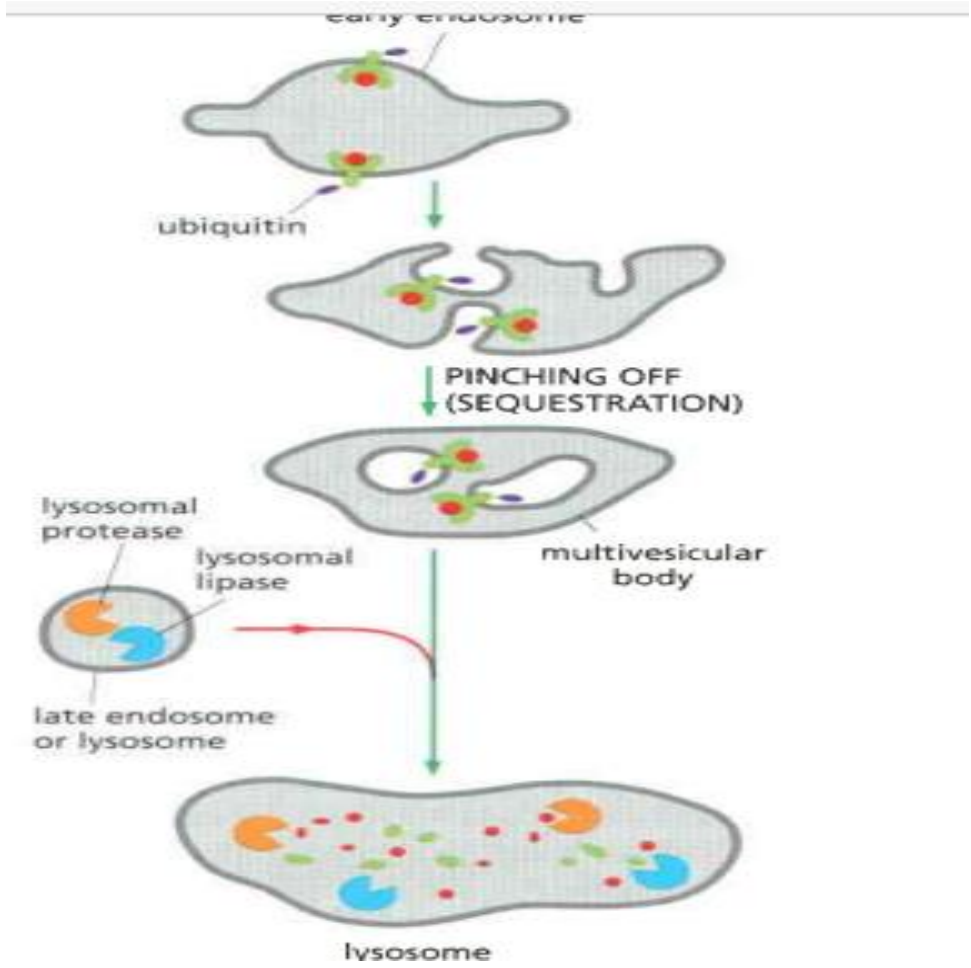
The receptor-mediated endocytosis of LDL



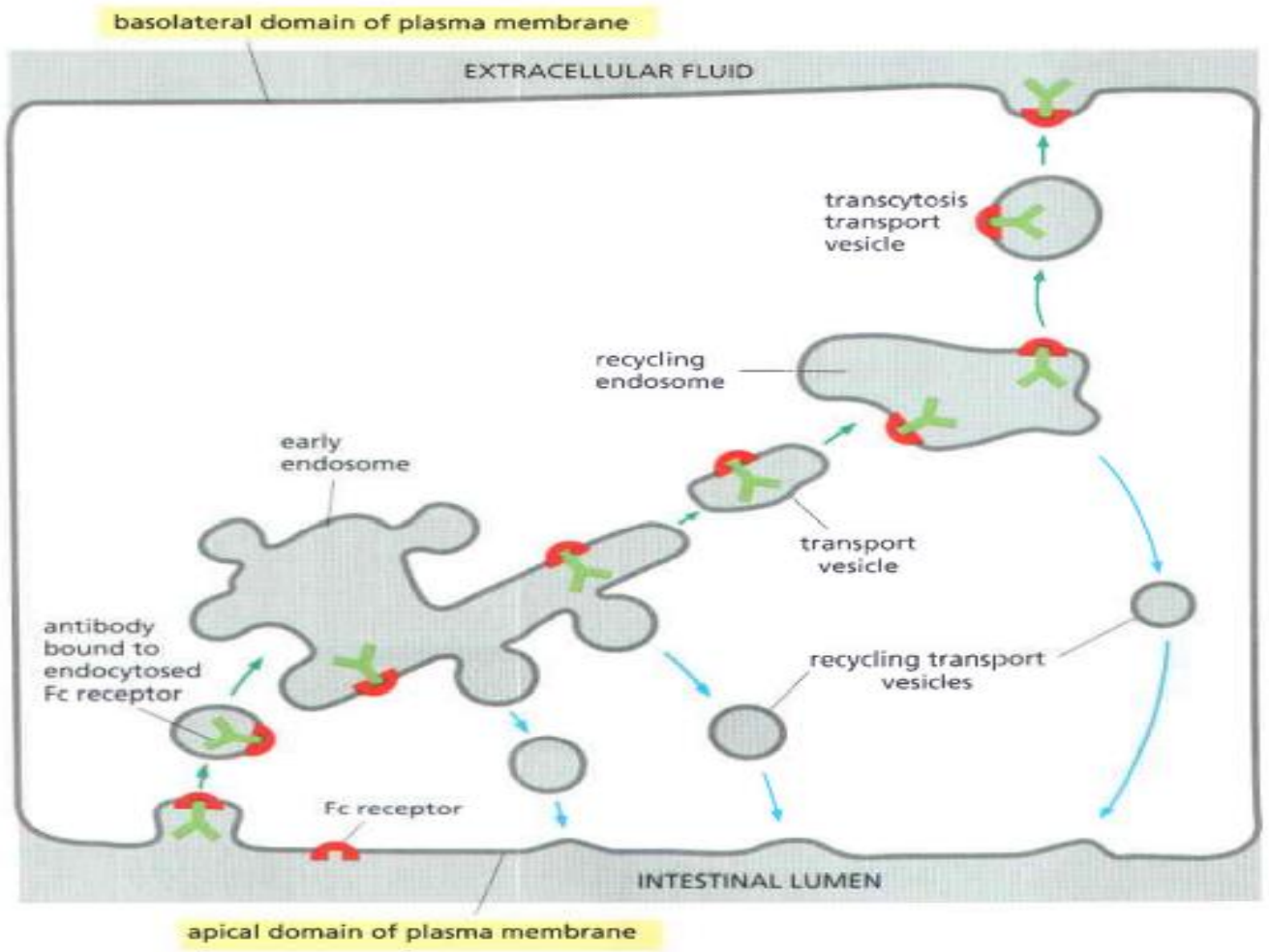
Details ofthe endocytic pathway from the plasma membrane to lysosome



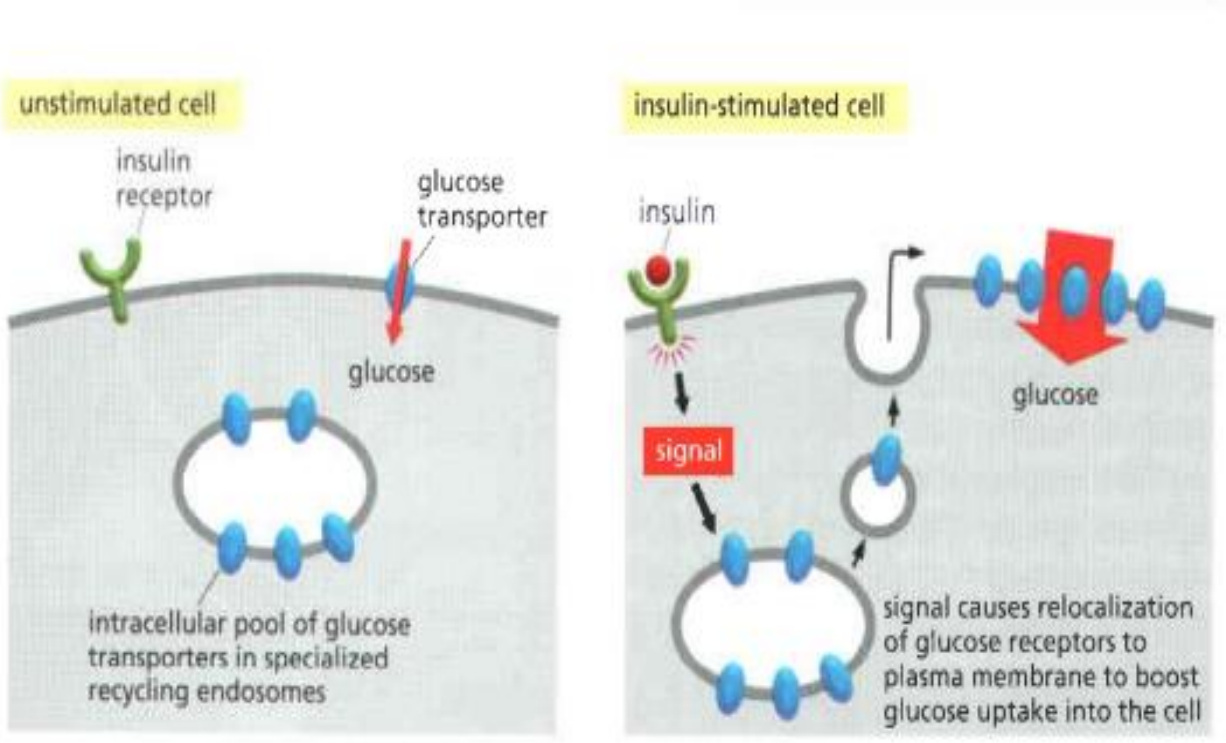
The sequestration of endocytosed proteins into internal membranes of multivesicular bodies

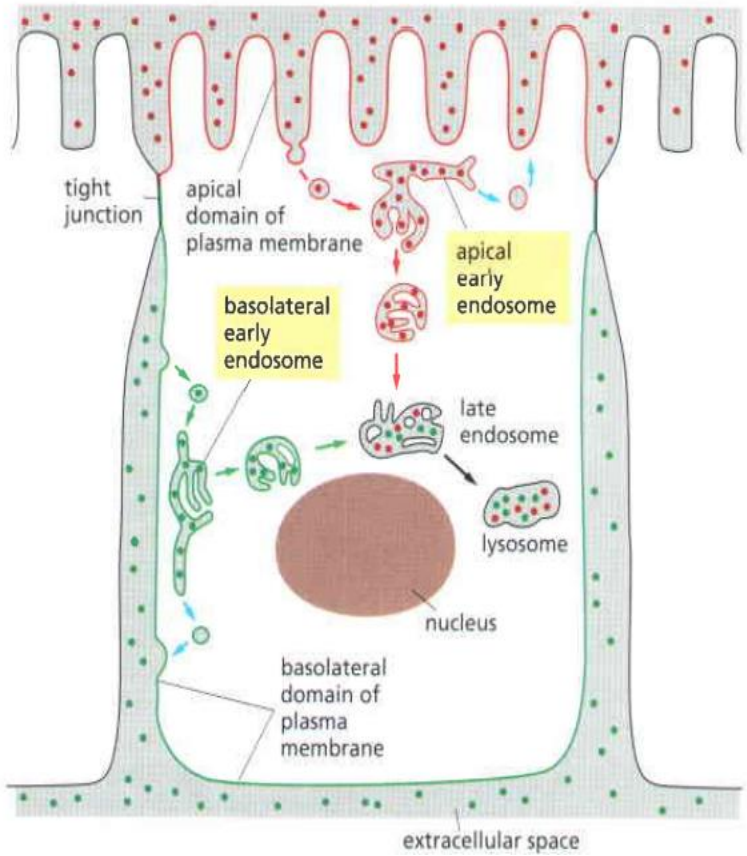


The role of recycling endosomes in transcytosis

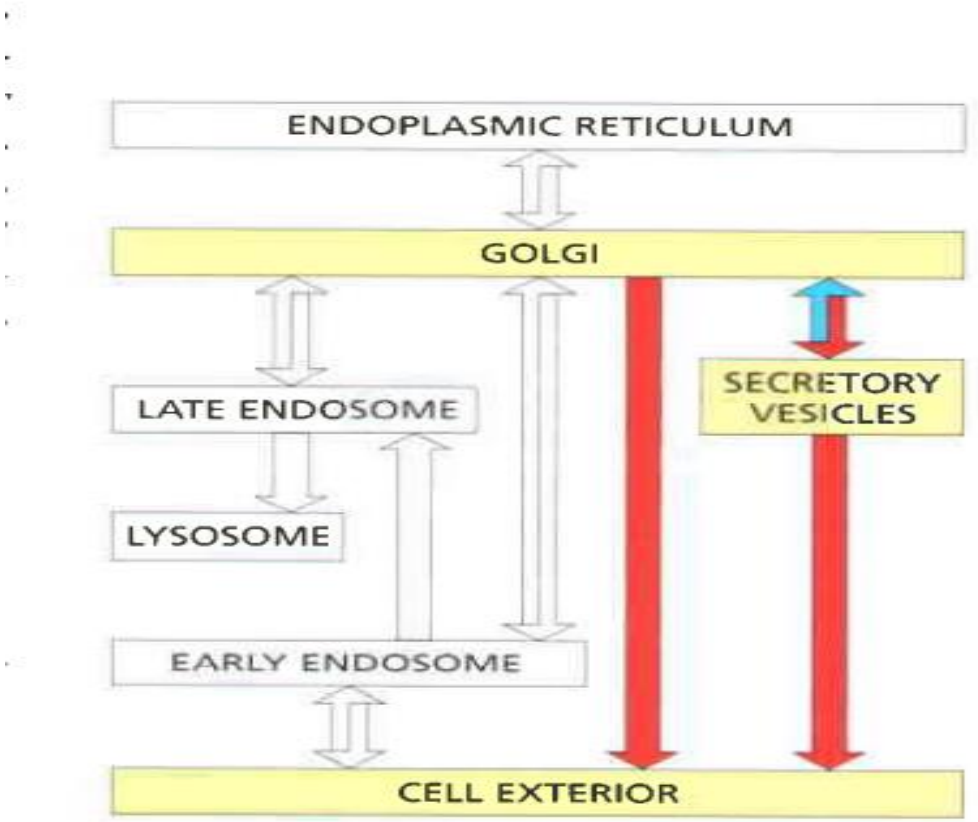


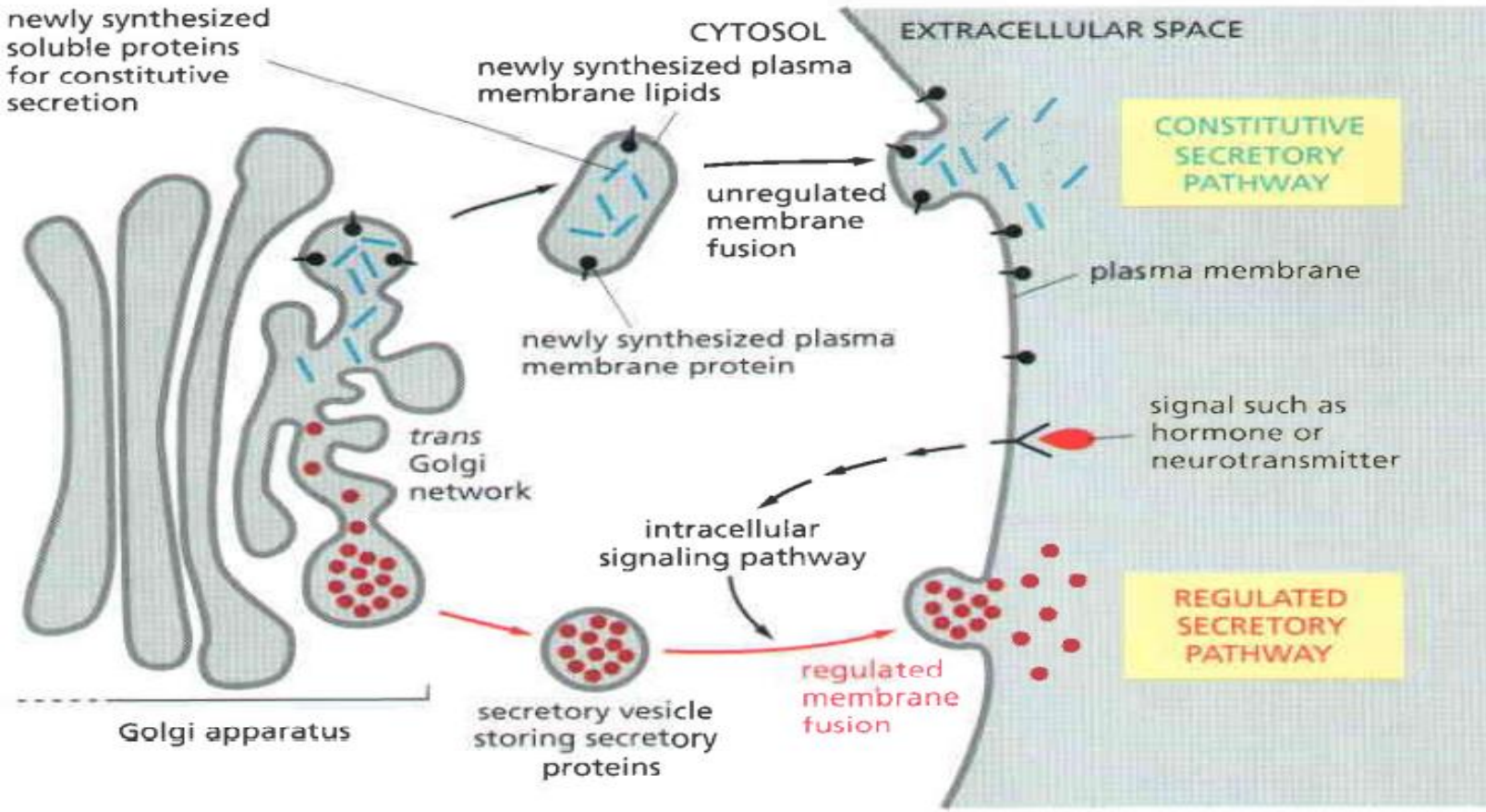
Storage of plasma membrane proteins in recycling endosome

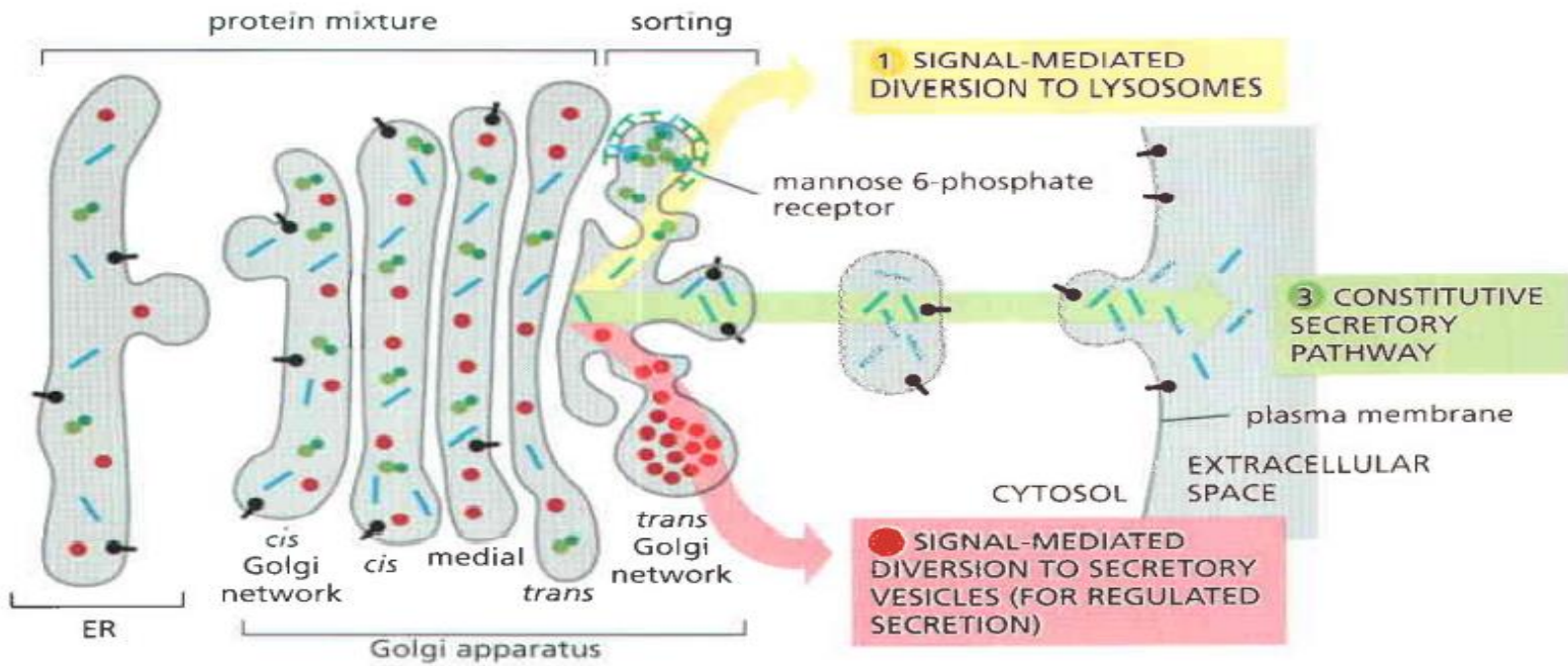



tight junction
apical domain of plasma membrane
apical early endosome
basolateral early endosome
late endosome
lysosome
nucleus
basolateral domain of plasma membrane
extracellular space

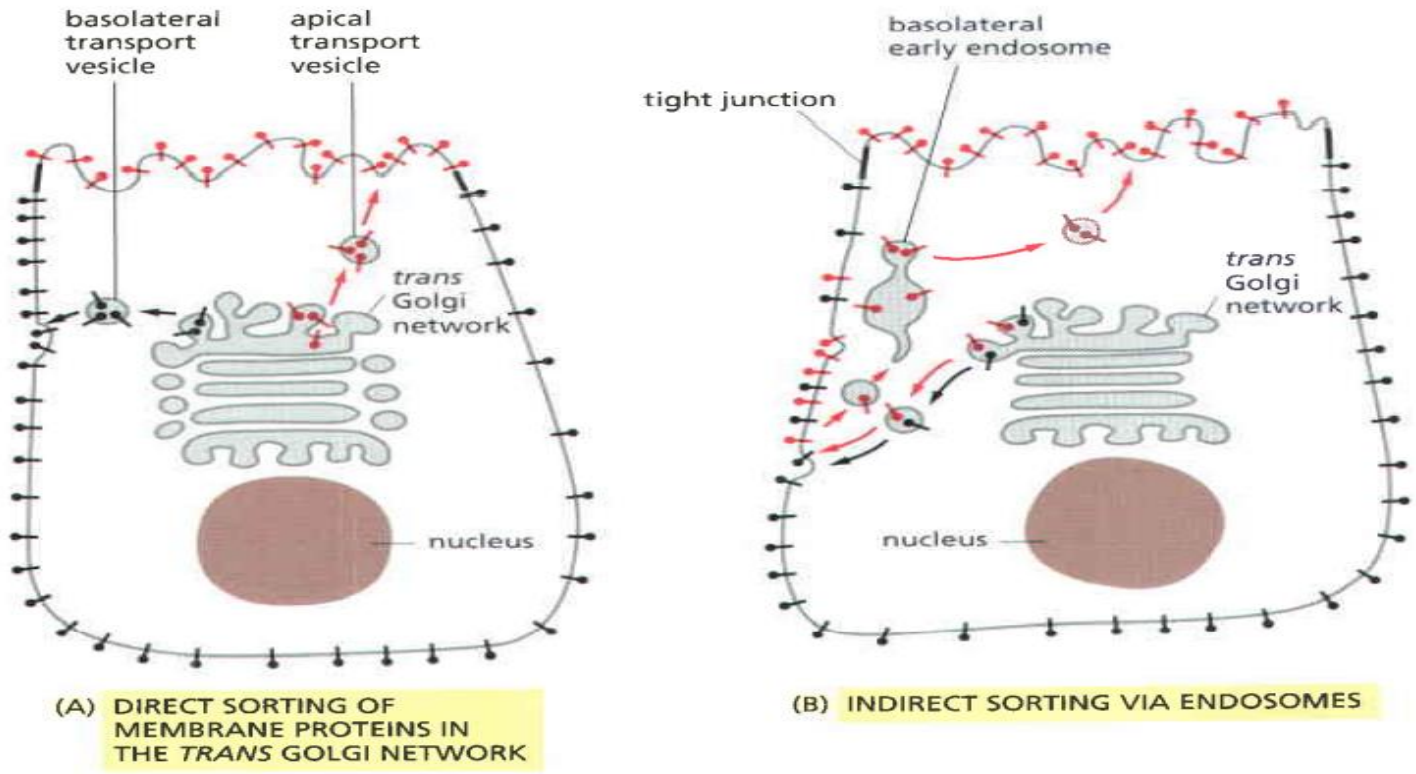
Exocytosis


ENDOPLASMIC RETICULUM
GOLGI
LATE ENDOSOME
LYSOSOME
EARLY ENDOSOME
SECRETORY VESICLES
CELL EXTERIOR


newly synthesized soluble proteins for constitutive secretion
CYTOSOL
EXTRACELLULAR SPACE
newly synthesized plasma membrane lipids
CONSTITUTIVE SECRETORY PATHWAY
unregulated membrane fusion
plasma membrane
newly synthesized plasma membrane protein
signal such as hormone or neurotransmitter
trans Golgi network
intracellular signaling pathway
REGULATED SECRETORY PATHWAY
regulated membrane fusion
secretory vesicle storing secretory proteins
Golgi apparatus


protein mixture
sorting
1 SIGNAL-MEDIATED DIVERSION TO LYSOSOMES
mannose 6-phosphate receptor
3 CONSTITUTIVE SECRETORY PATHWAY
plasma membrane
EXTRACELLULAR SPACE
CYTOSOL
2 SIGNAL-MEDIATED DIVERSION TO SECRETORY VESICLES (FOR REGULATED SECRETION)
cis Golgi network
cis
medial
trans
trans Golgi network
ER
Golgi apparatus

Two ways of sorting plasma membrane Proteins in a polarized epithelial cell



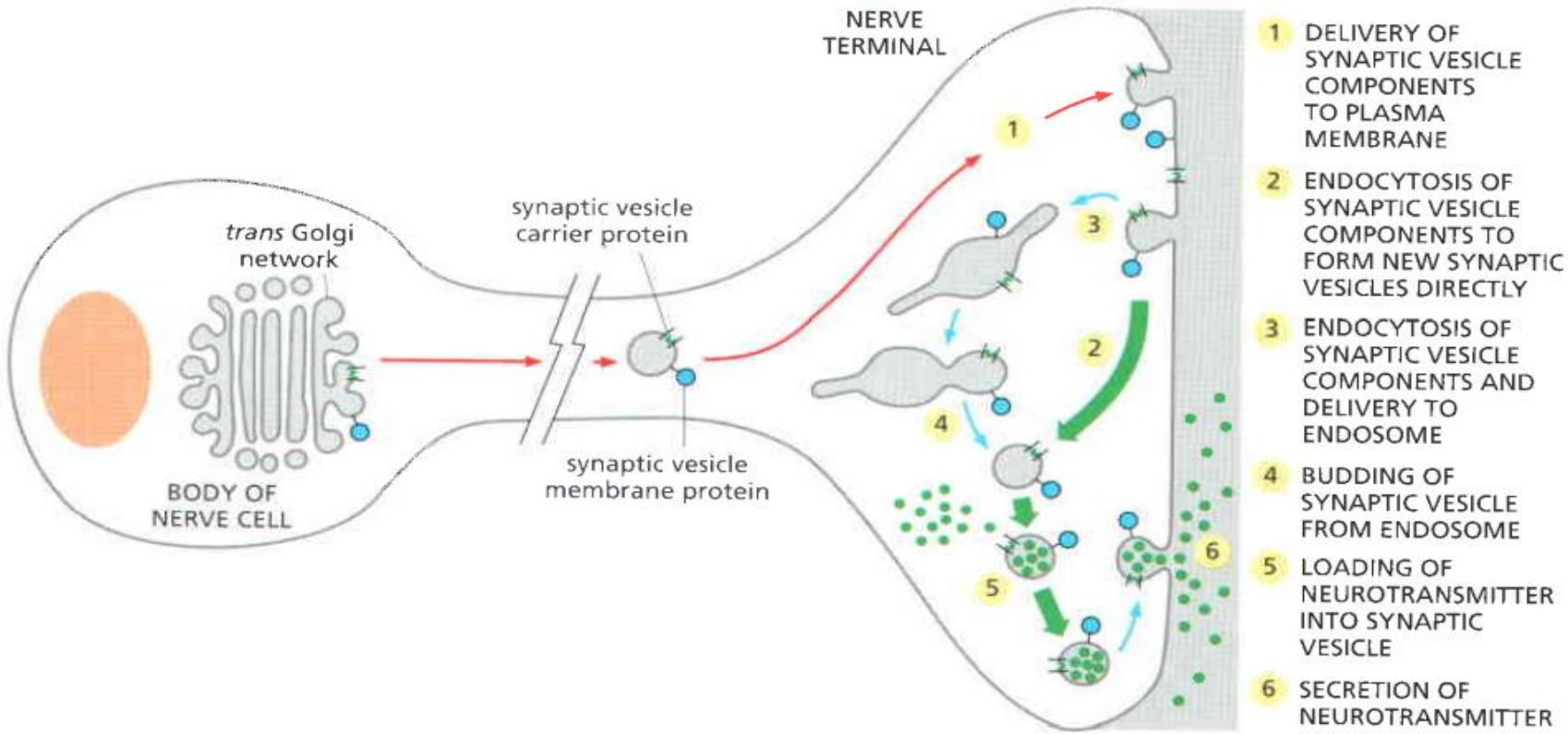


Figure 13–73 **The formation of synaptic vesicles.** These tiny uniform vesicles are found only in nerve cells and in some endocrine cells, where