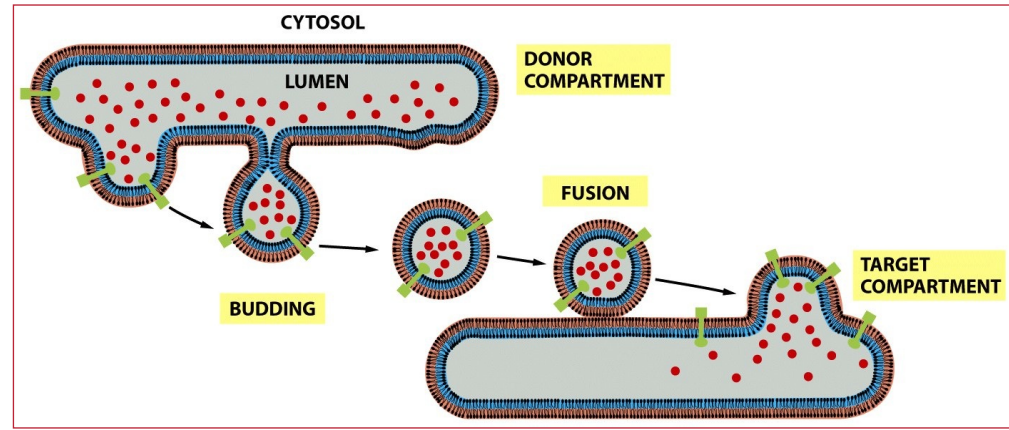
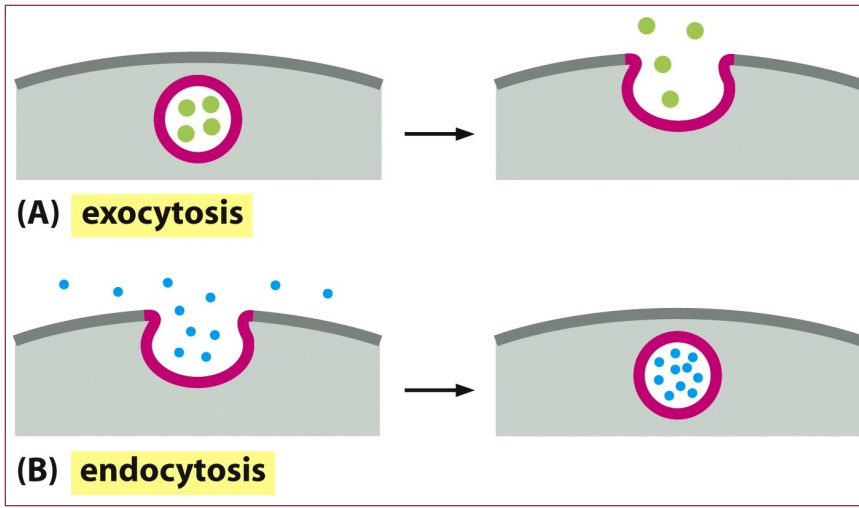
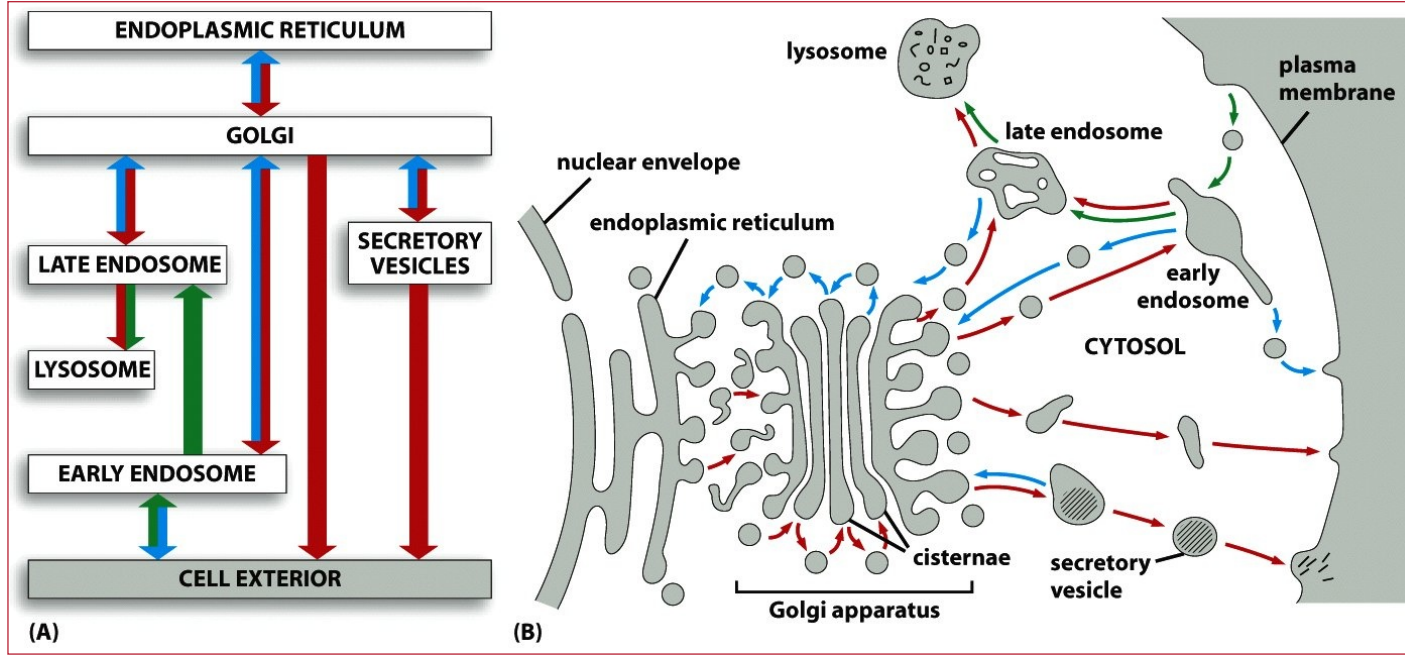


Hücreiçi Vesiküler Taşınma



- Hücre beslenmeli ve etrafındaki dünya ile iletişim kurmalıdır.
- Prokaryotlarda, Sindirim enzimleri \uparrow , sindirilen metabolitler \downarrow aynı zar bölgesinden gerçekleşir.

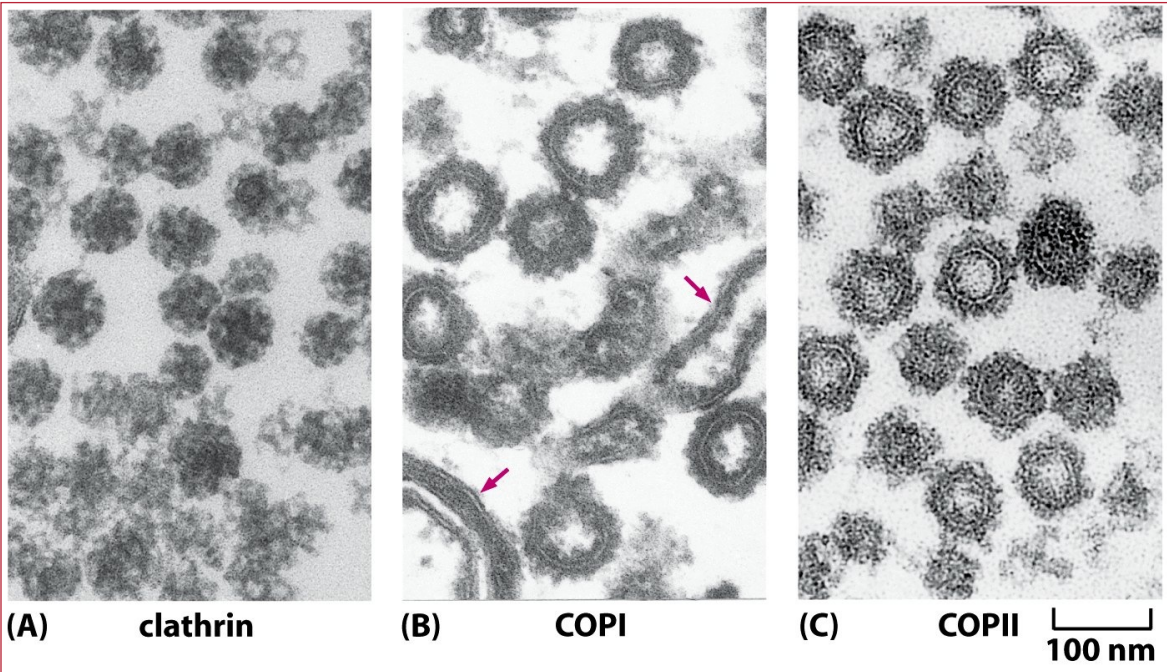
◀ Endositoz Yolu



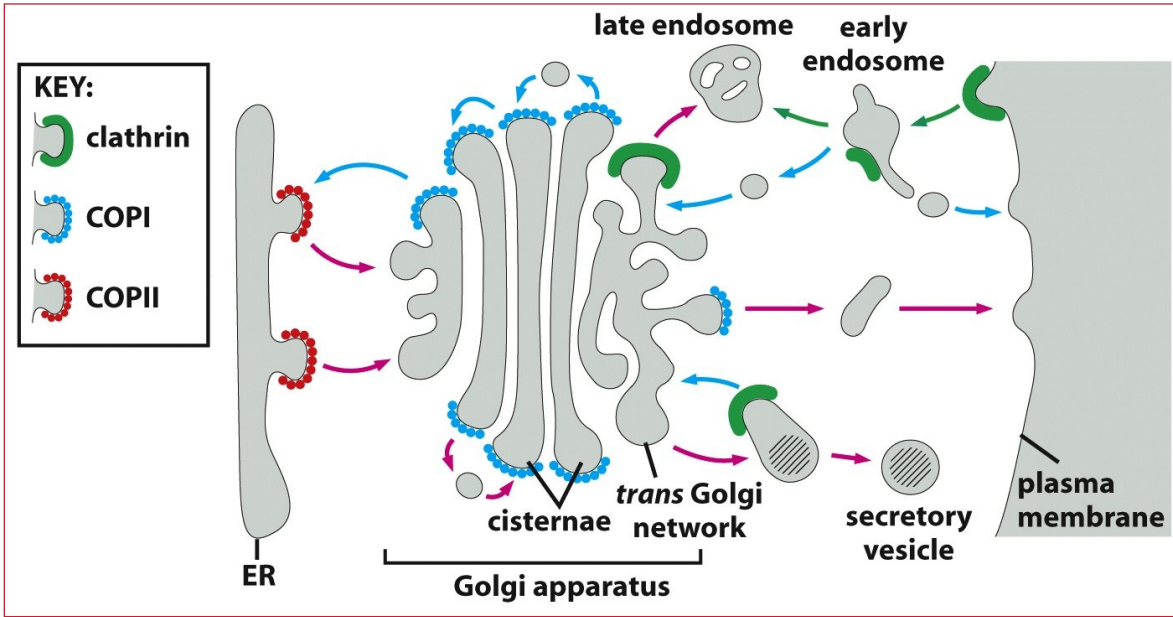
▶ Biosentetik Salgı Yolağı

Bu 2 yönlü trafiğin düzenlenmesinde bölmeler özelliğini nasıl korumaktadır?

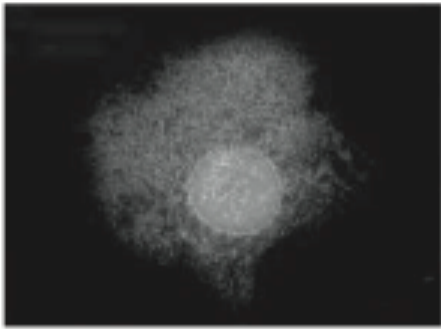
Taşıma keseciklerinin çoğu özelleşmiş, kaplı zar bölmelerinden oluşmaktadır. Etrafı protein kafes ile



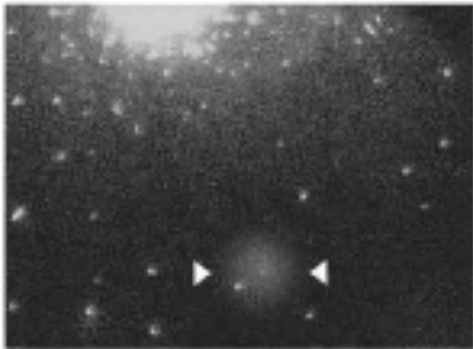
Klatrin
COPI
COPII



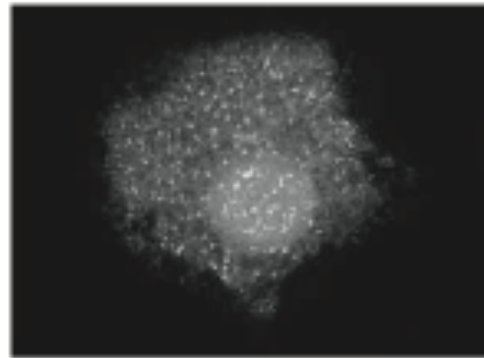
COPI Golgi'den, COPII ER'dan tomurcuklanır. COPI 7, COPII 4 altbirimden oluşur.



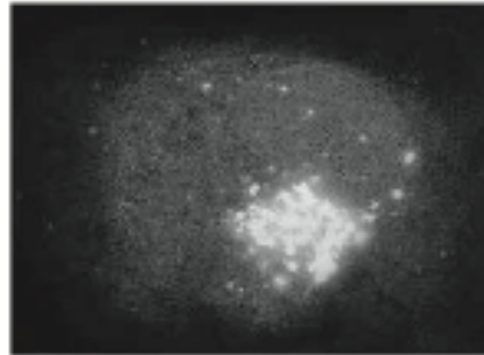
(A) In this experiment, cultured cells express a GFP fusion protein consisting of GFP attached to a viral coat protein—called vesicular stomatitis virus coat protein. The viral protein is an integral membrane protein that normally moves through the secretory pathway from the ER to the cell surface, where the virus would be assembled if cells also expressed the other viral components. The viral protein contains a mutation that allows export from the ER only at a low temperature. Thus, at the high temperature shown, the fusion protein labels the ER.



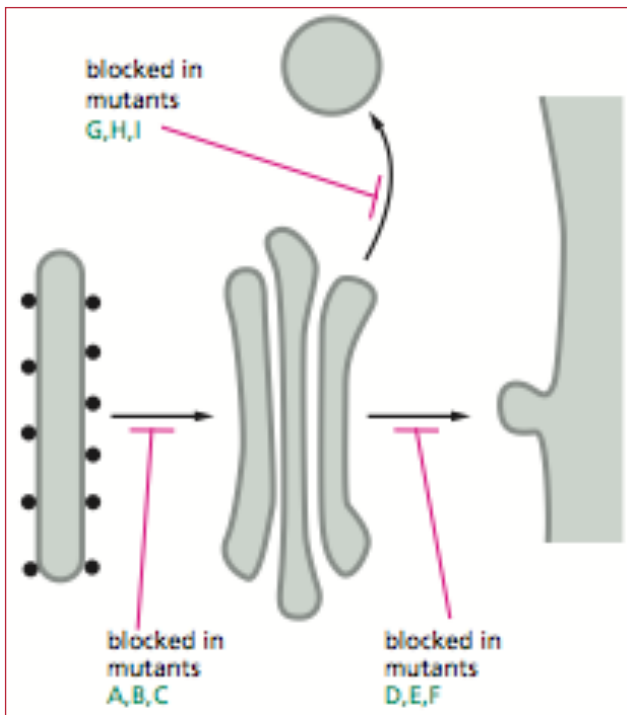
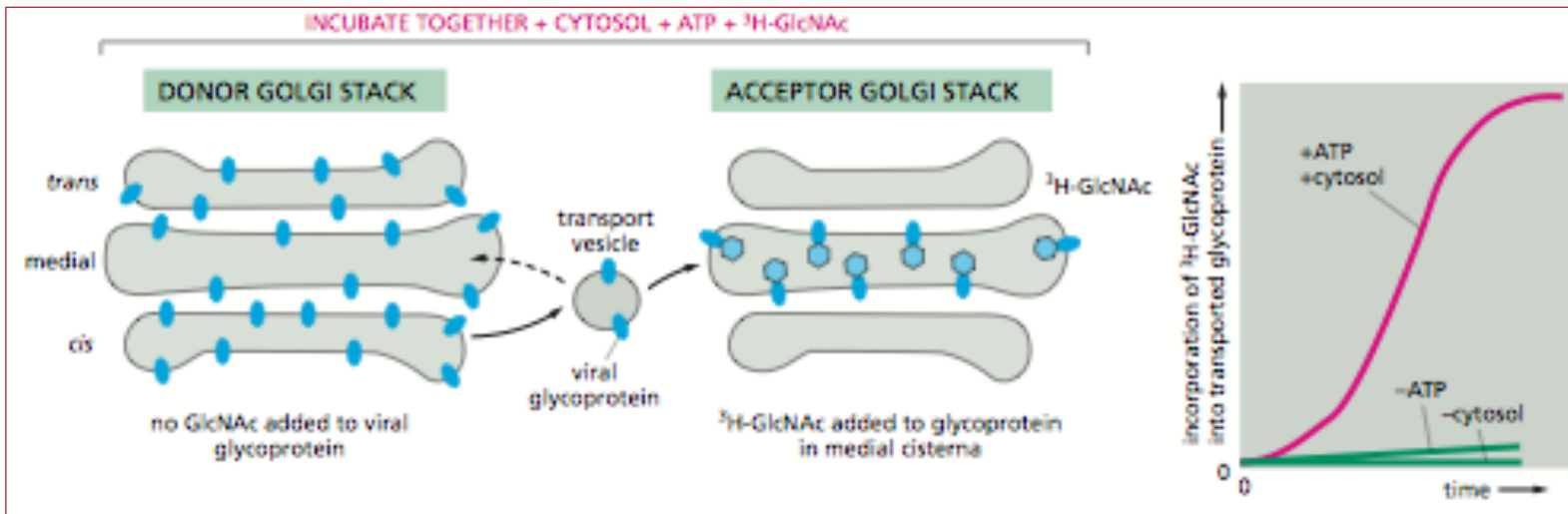
(D) Finally, the fusion protein is delivered to the plasma membrane where the delivered protein diffuses into the plasma membrane (the arrows bracket a fusion event). From such studies the kinetics of each step in the pathway can be determined.

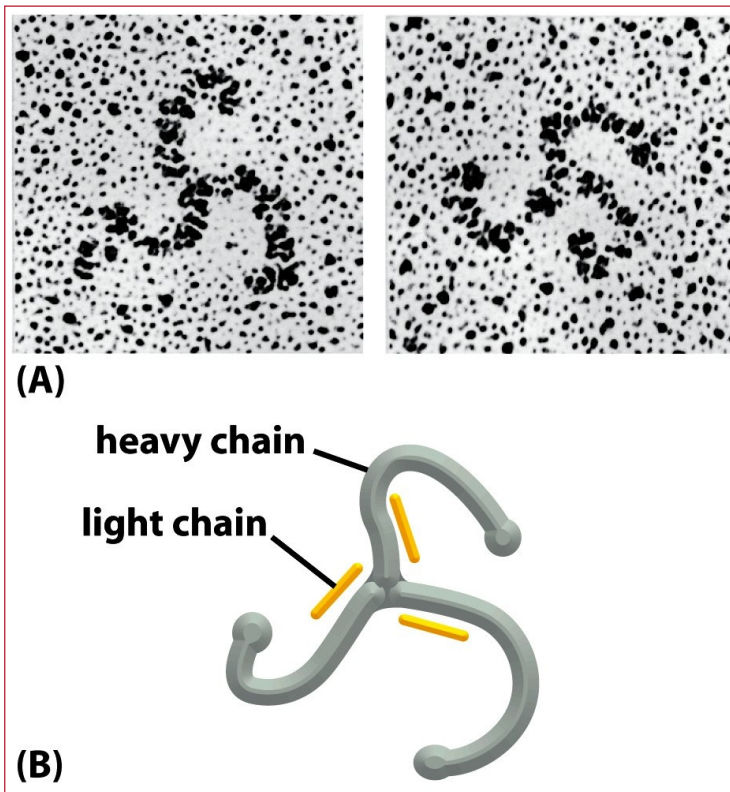
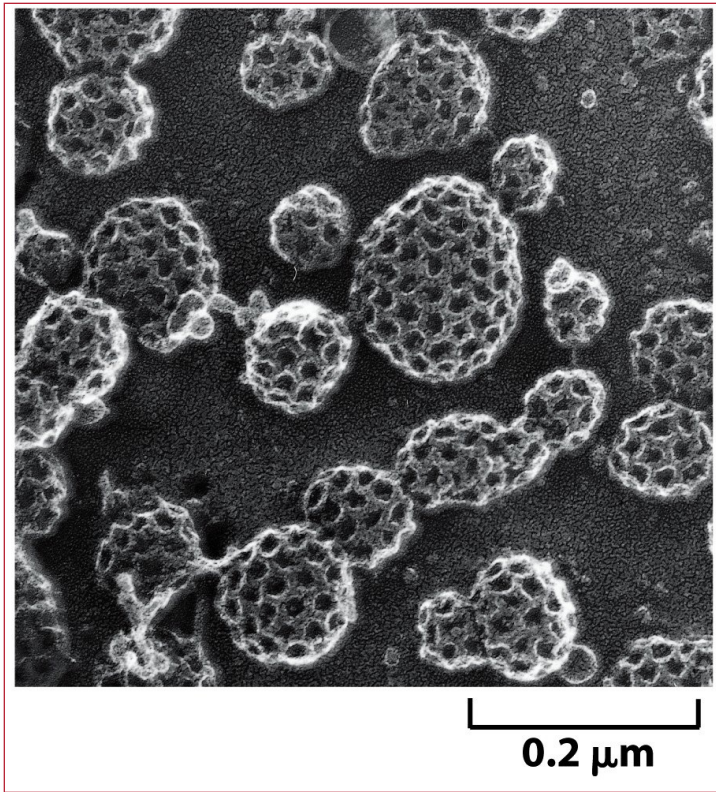


(B) As the temperature is lowered, the GFP fusion protein rapidly accumulates at ER exit sites.

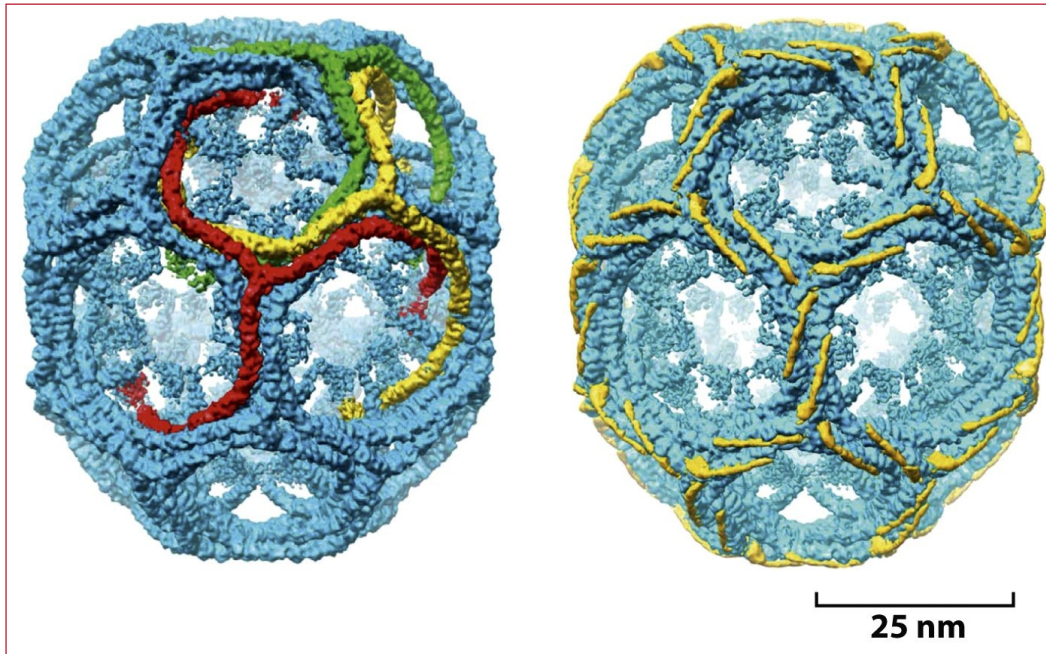


(C) The fusion protein then moves to the Golgi apparatus.



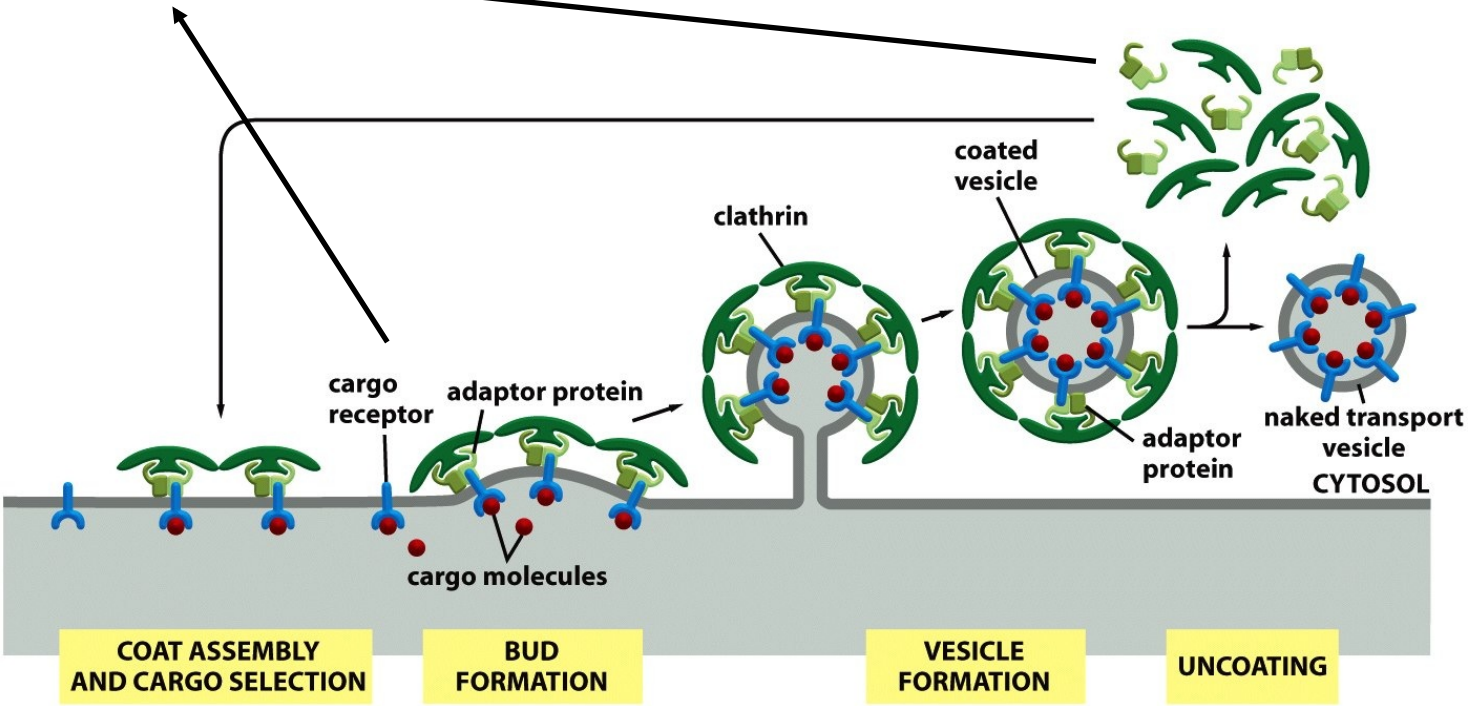


- Klatrin: ilk keşfedilen kapalı keseciktir. Triskelion denen trimerlerden oluşmuştur.



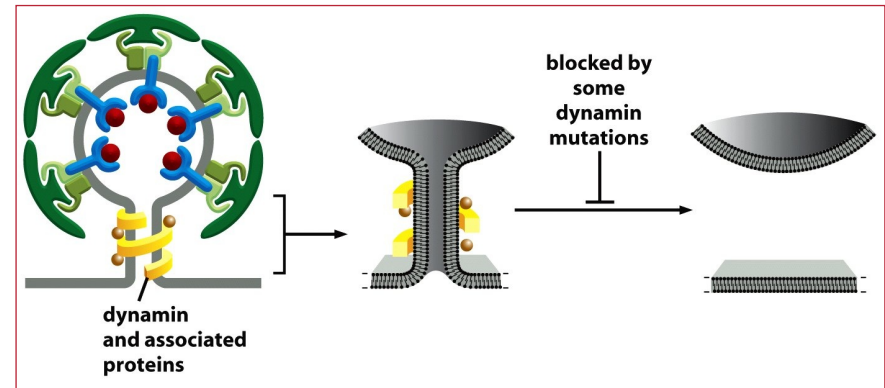
- Triskelion'lar in vitro'da da polihedral yapı oluşturabilir.

Adaptin



Adaptinler hem klattrinle hem kargo reseptörleri ile bağlanır.

Vezikül ayrılması sırasında Dynamin GTPaz zarın sitozolik olmayan iki yakasını birleştirir.



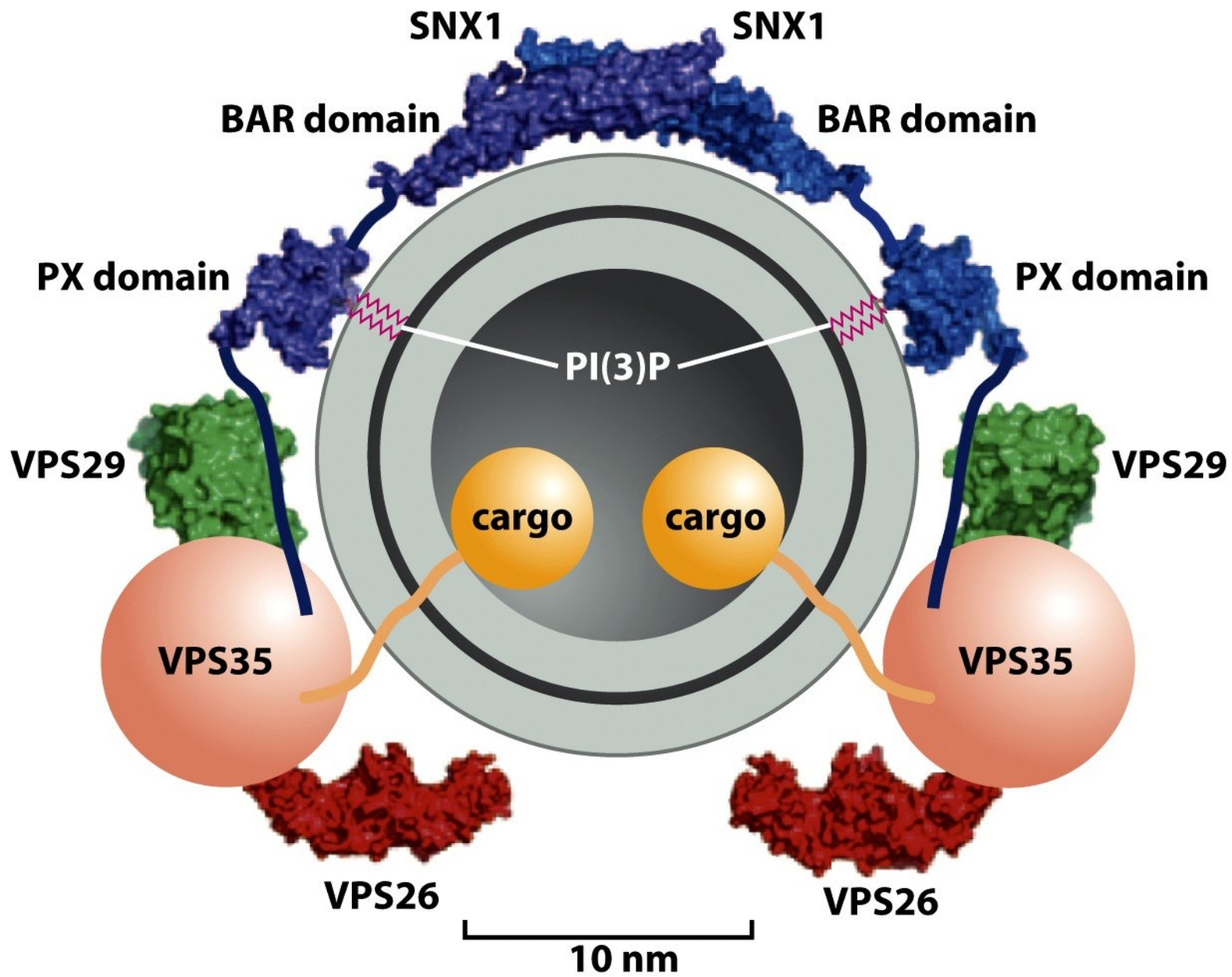


Figure 13-9 *Molecular Biology of the Cell* (© Garland Science 2008)

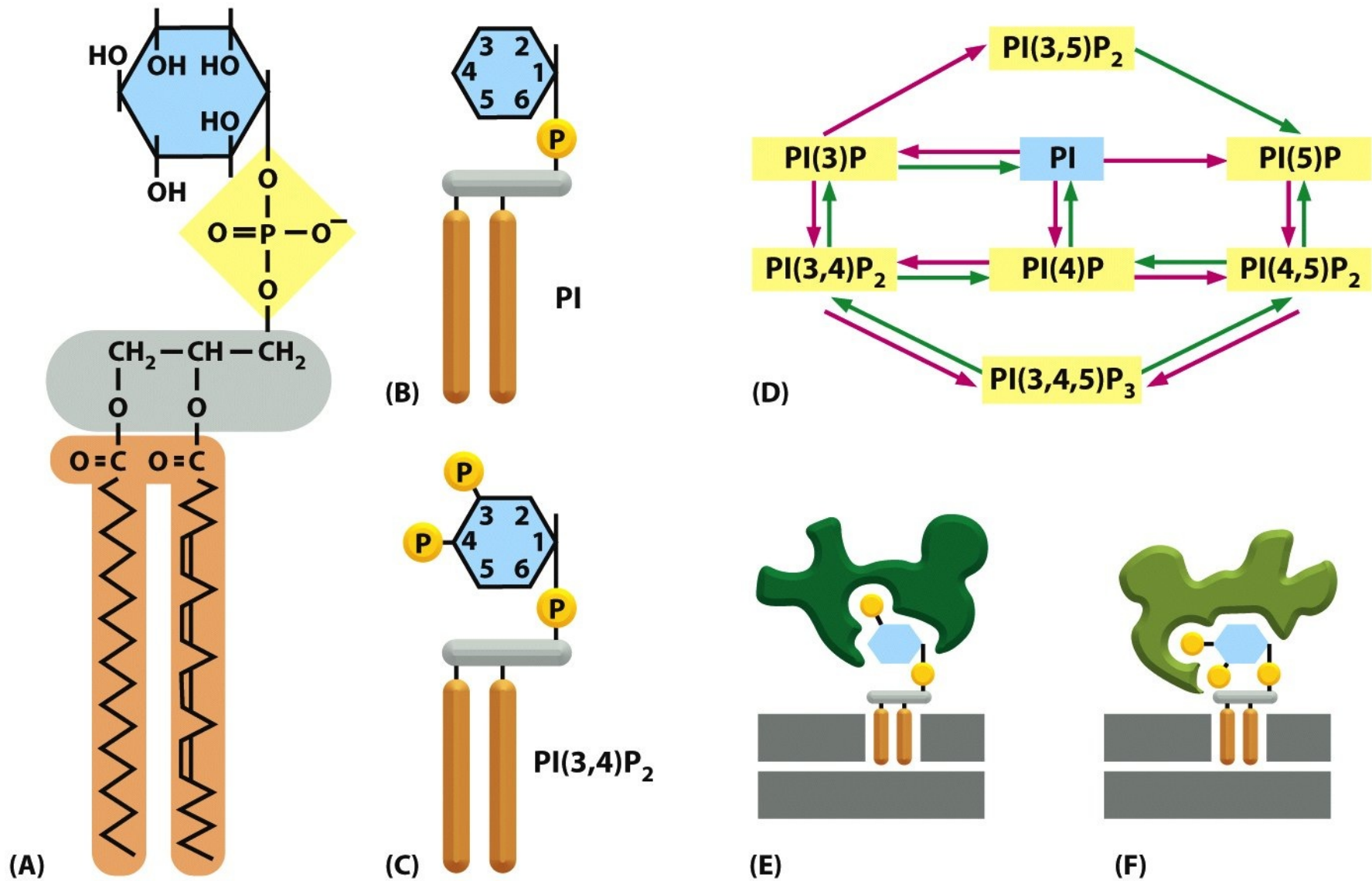


Figure 13-10 *Molecular Biology of the Cell* (© Garland Science 2008)

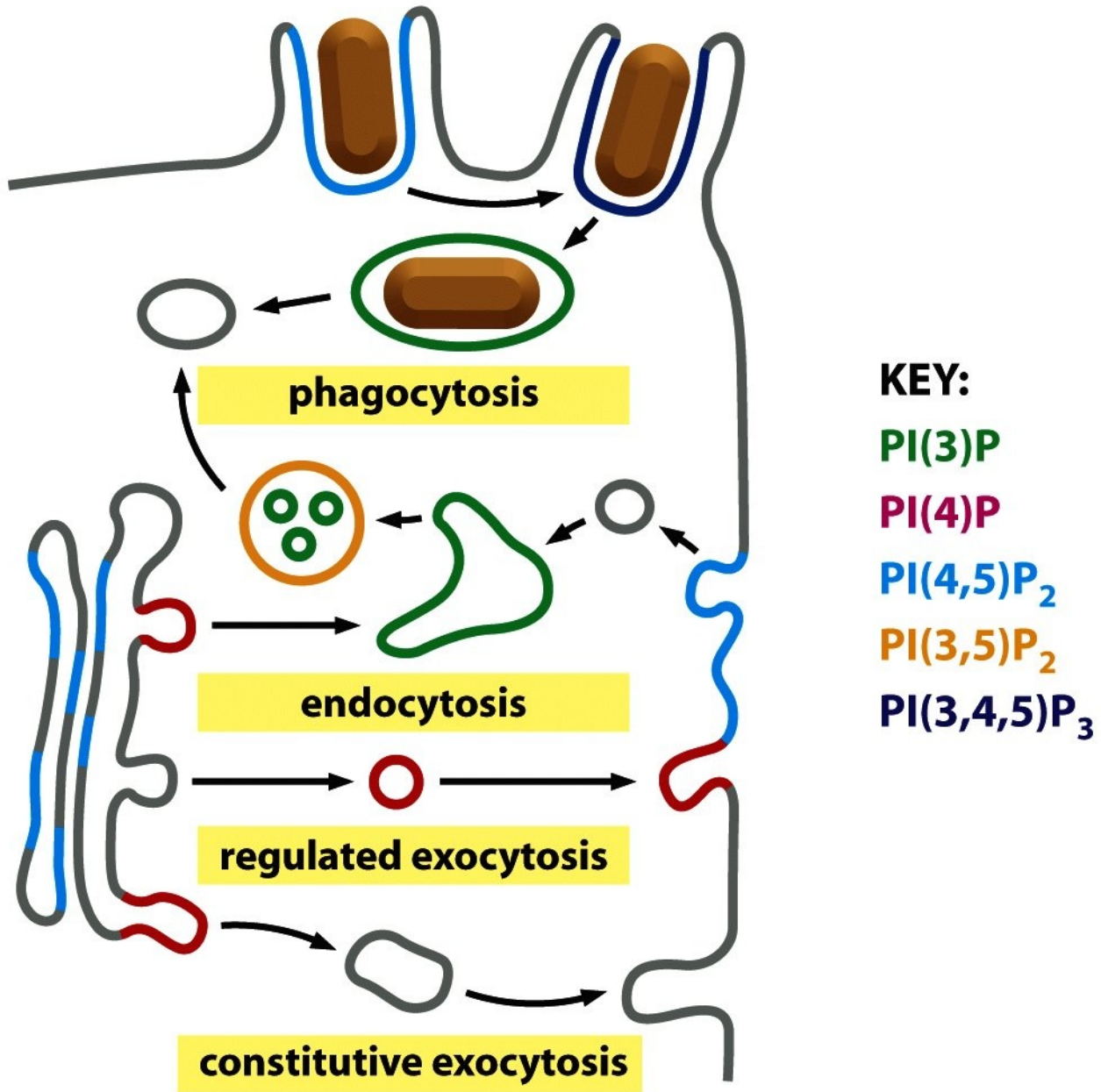
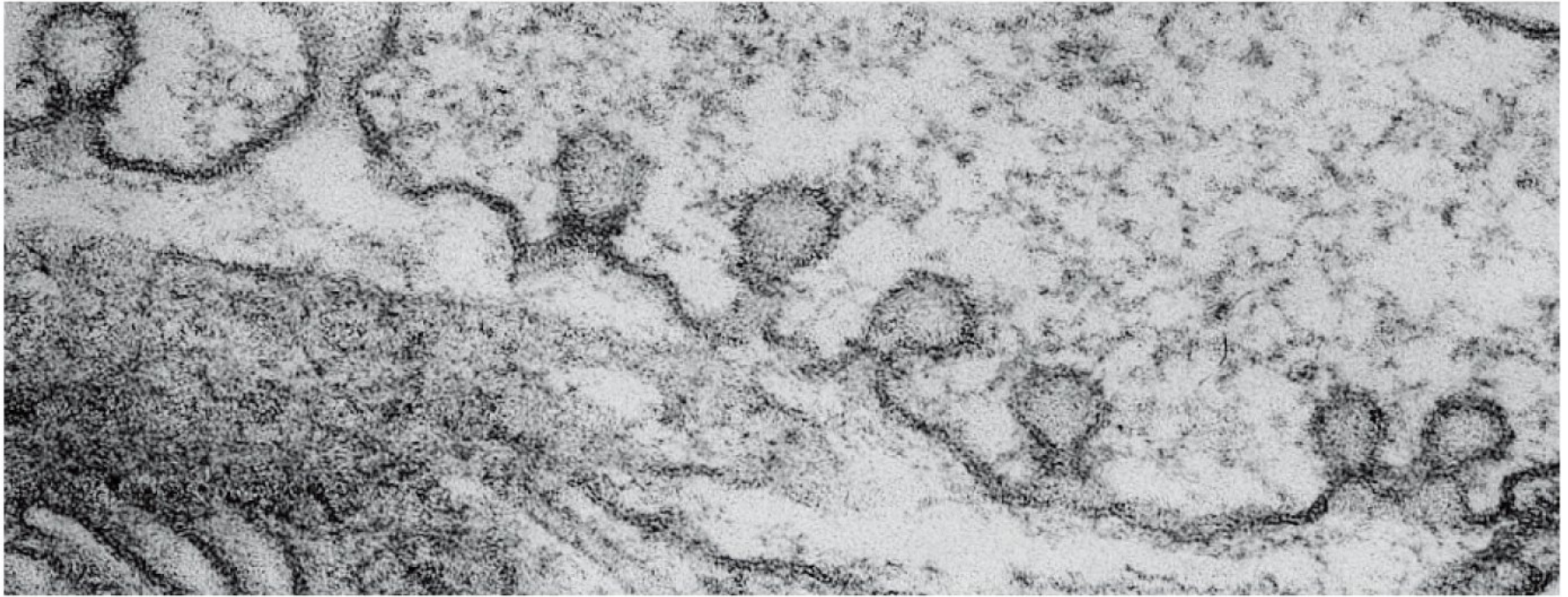
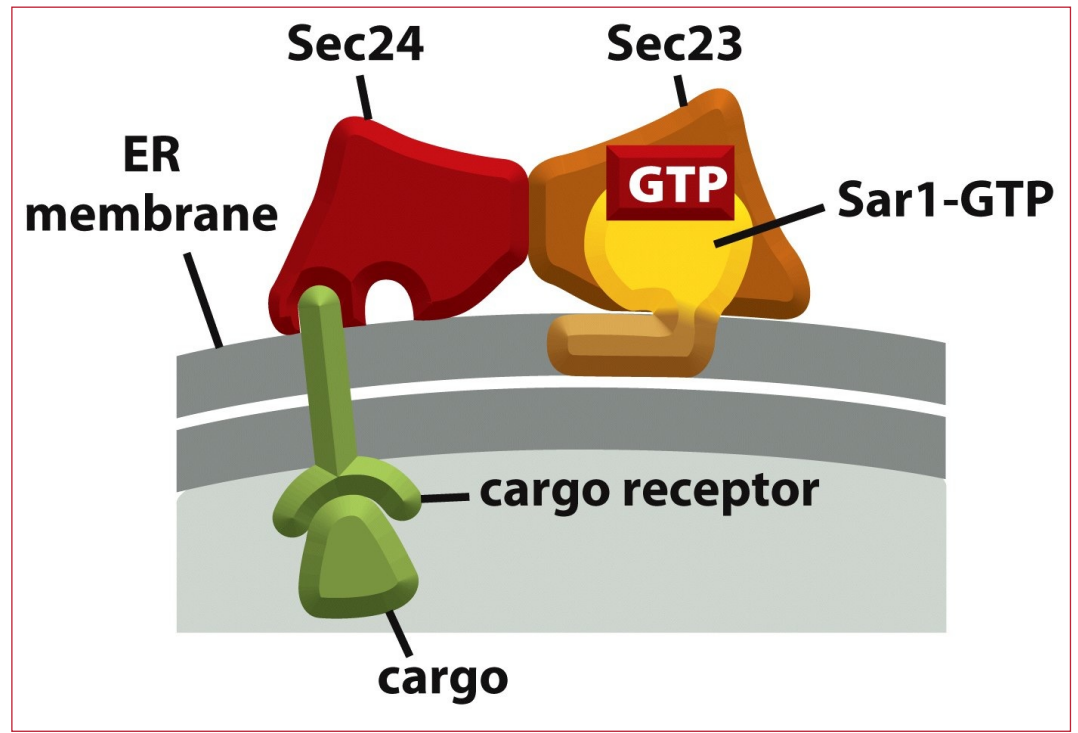
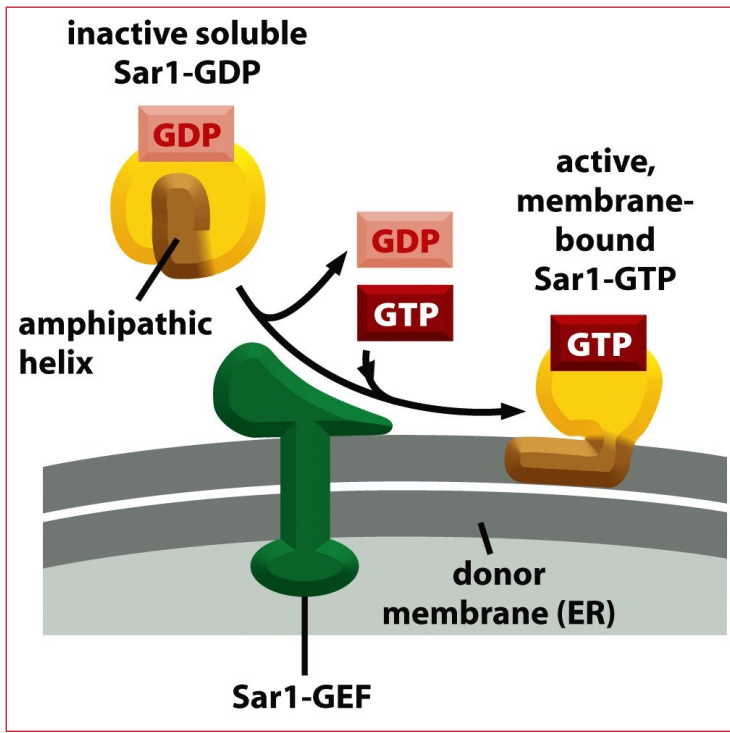


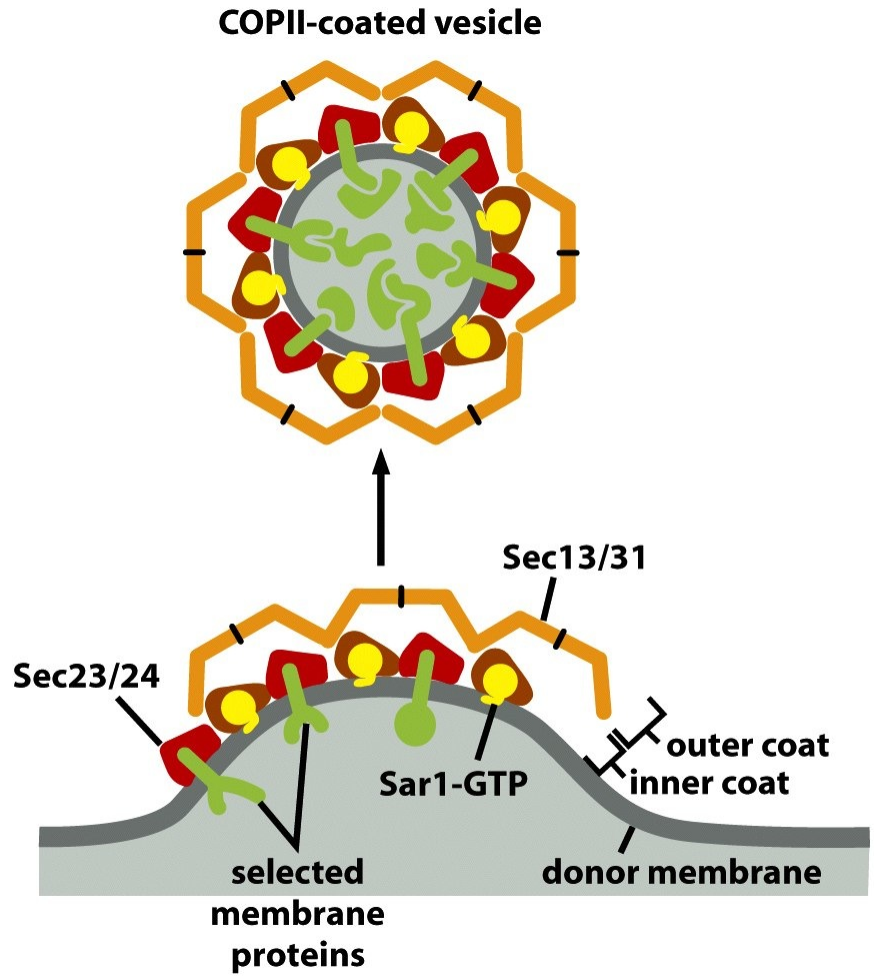
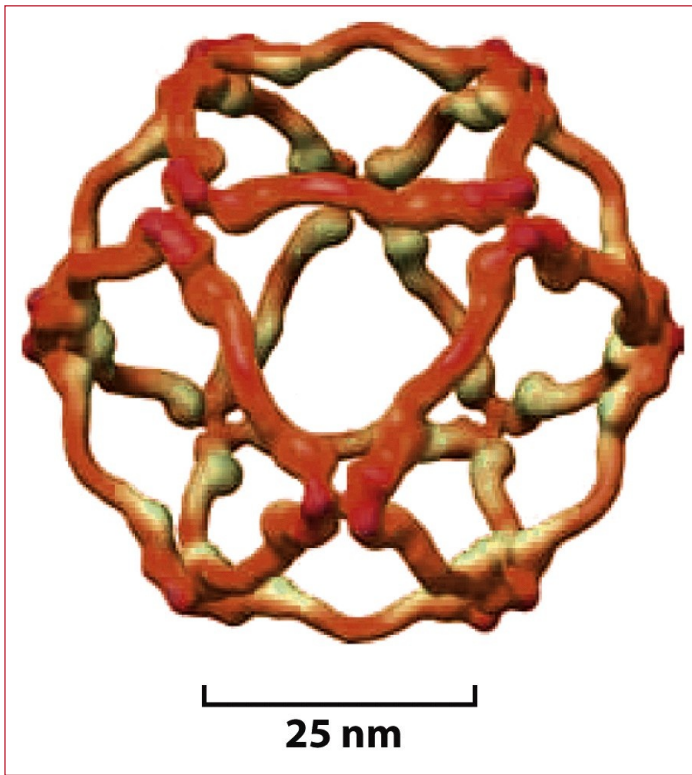
Figure 13-11 *Molecular Biology of the Cell* (© Garland Science 2008)



200 nm



- Kaplama proteinlerinin doğru zamanda ve doğru yerlerde yapılması zar trafiğinin düzenlenmesinde çok önemlidir.
- Golgide COPI 'da ARF proteinleri, ER'da COPII'da Sar1. Kargo içeriğinin zara doğru toplanmasını sağlar.



- Zar Taşınmasını SNARE'ler ve hedefleyici GTPaz'lar yönlendirir

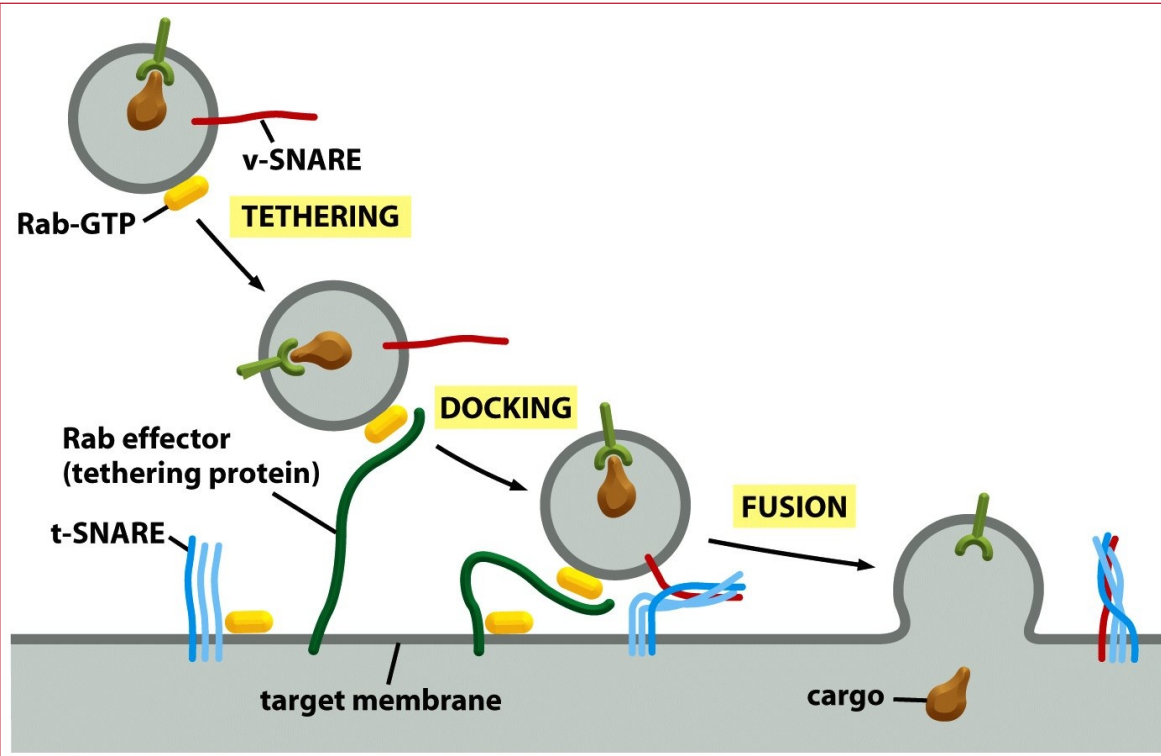
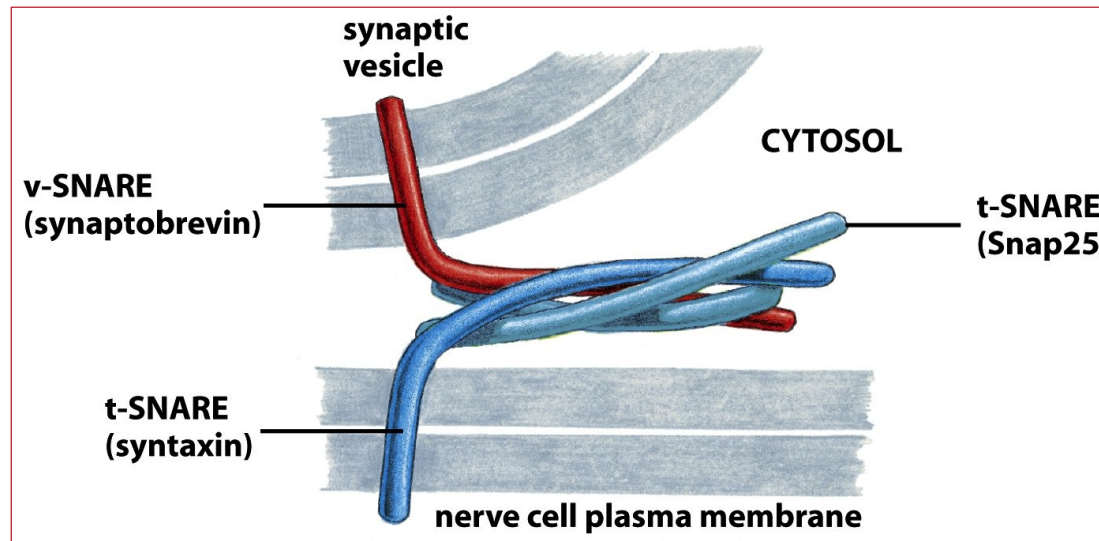
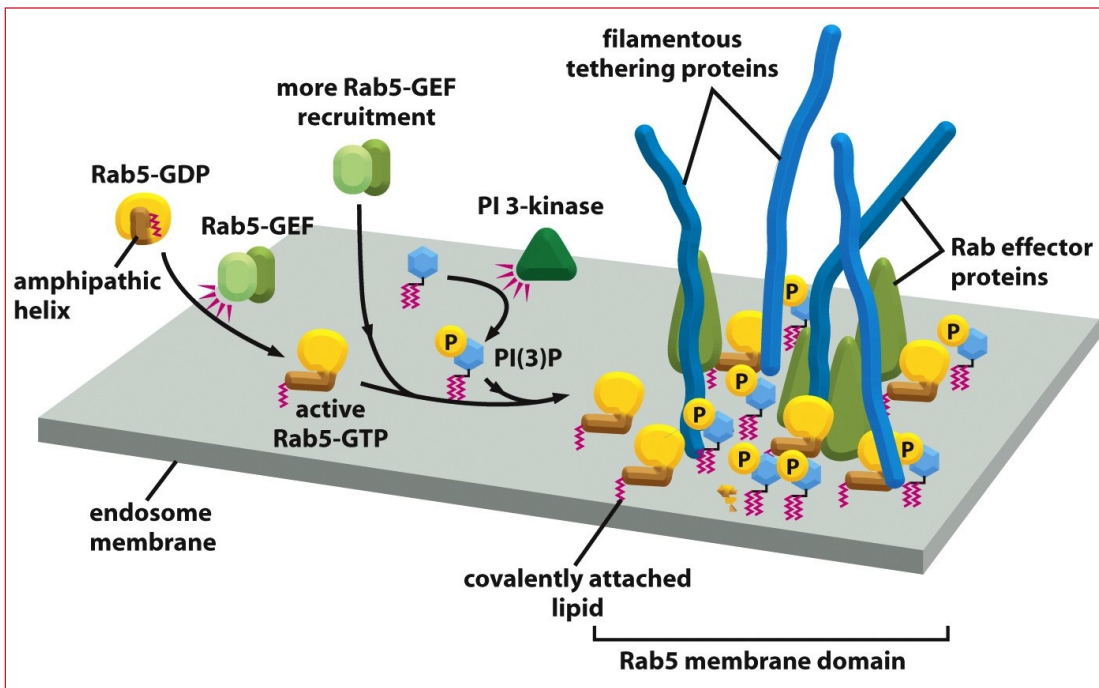


Table 13-1 Subcellular Locations of Some Rab Proteins

PROTEIN	ORGANELLE
Rab1	ER and Golgi complex
Rab2	<i>cis</i> Golgi network
Rab3A	synaptic vesicles, secretory granules
Rab4/Rab11	recycling endosomes
Rab5A	plasma membrane, clathrin-coated vesicles, early endosomes
Rab5C	early endosomes
Rab6	medial and <i>trans</i> Golgi cisternae
Rab7	late endosomes
Rab8	early endosomes
Rab9	late endosomes, <i>trans</i> Golgi network



SNARE'ler en iyi sinir ucundaki plazma zarında çalışılmıştır. tetanoz ve botulinum toksinlerinin hedefidirler.

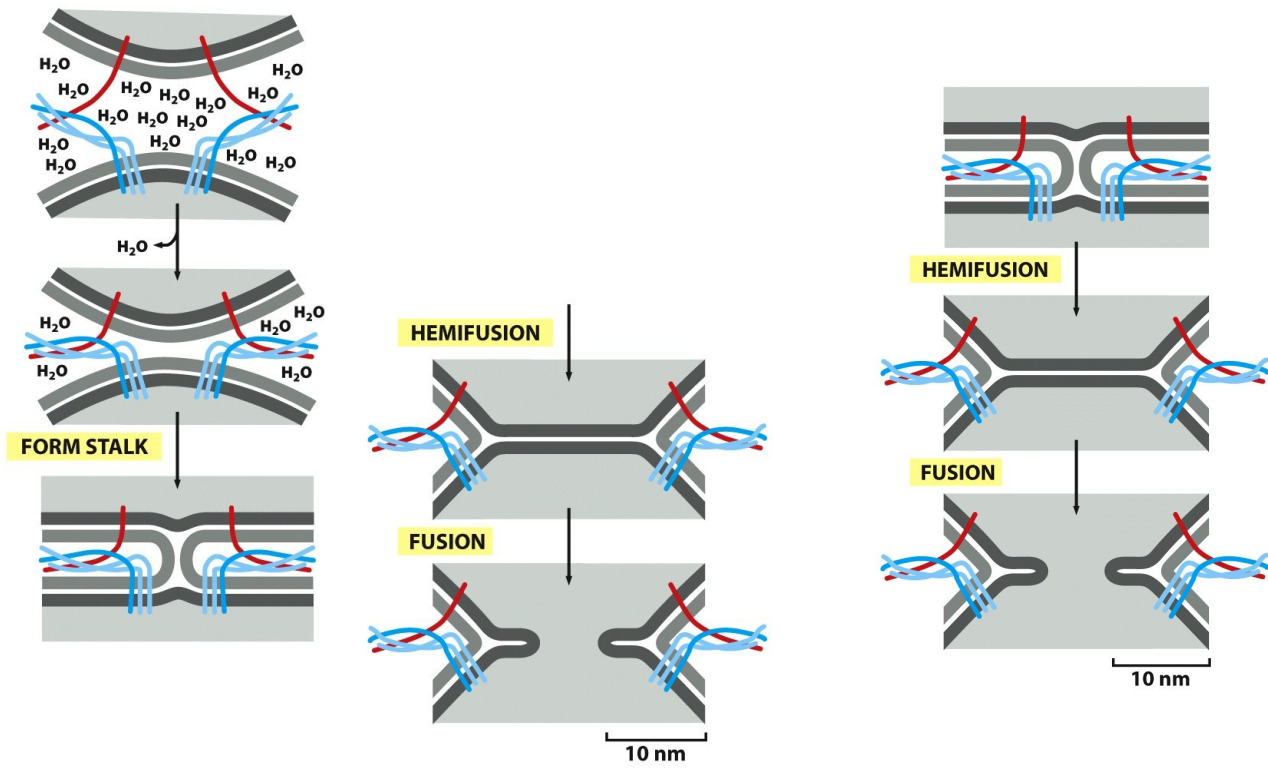
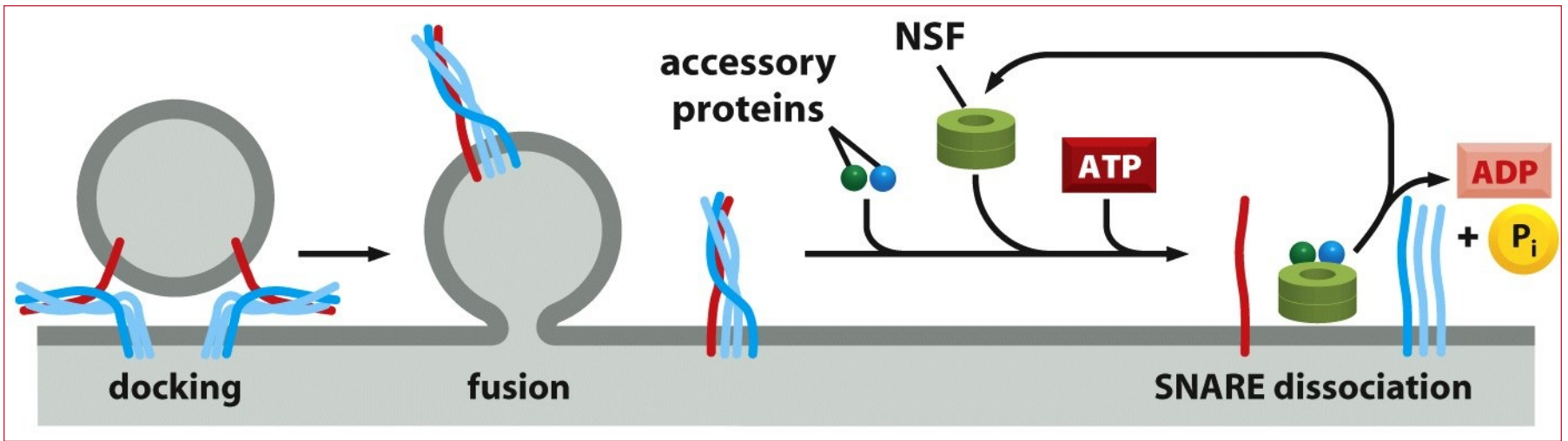
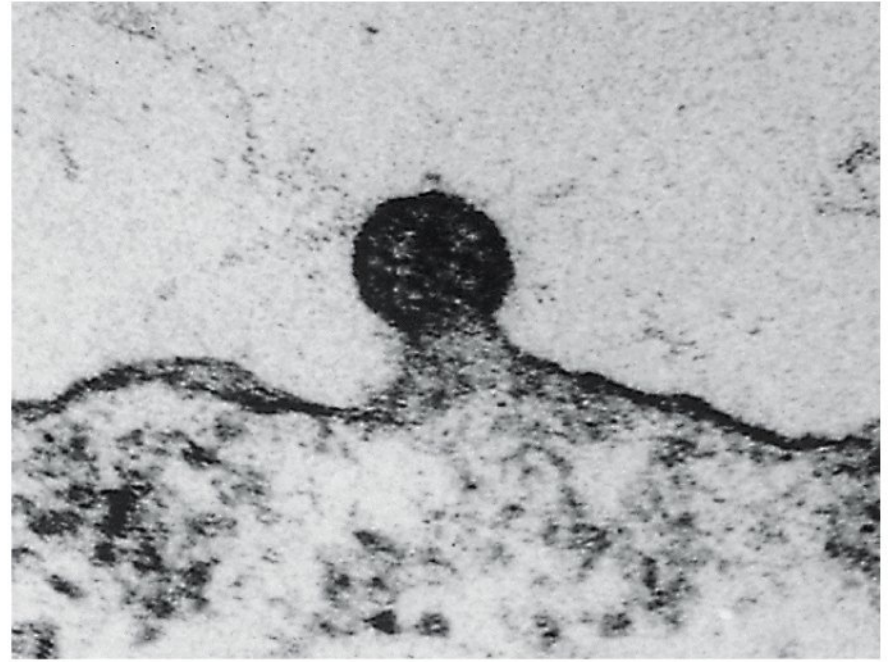
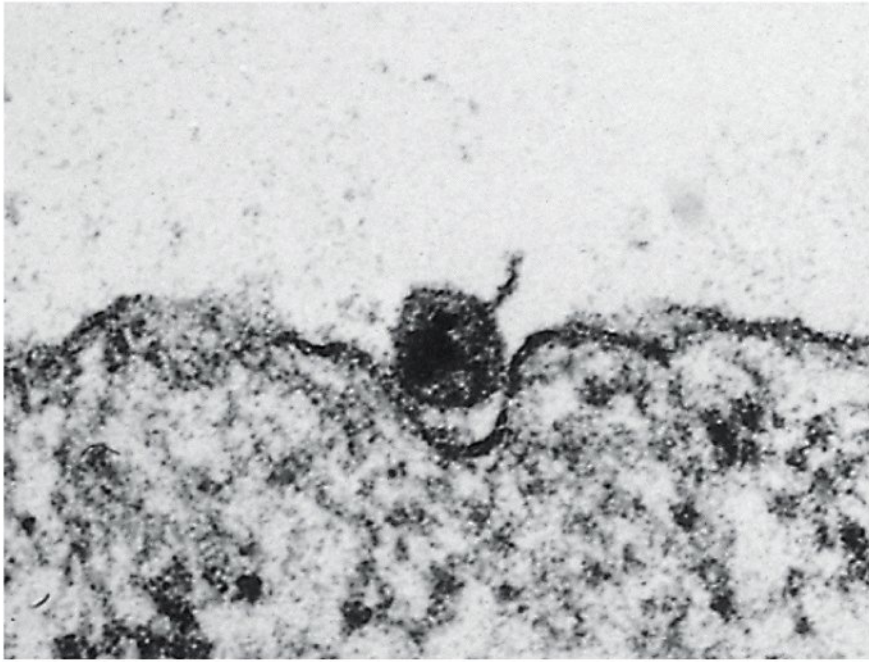


Figure 13-17 *Molecular Biology of the Cell* (© Garland Science 2008)



- SNARE'lerin etkili olabilmesi için dissosiyasyon olması gereklidir.



200 nm

Figure 13-19a *Molecular Biology of the Cell* (© Garland Science 2008)