Regulación de la Expresión Génica

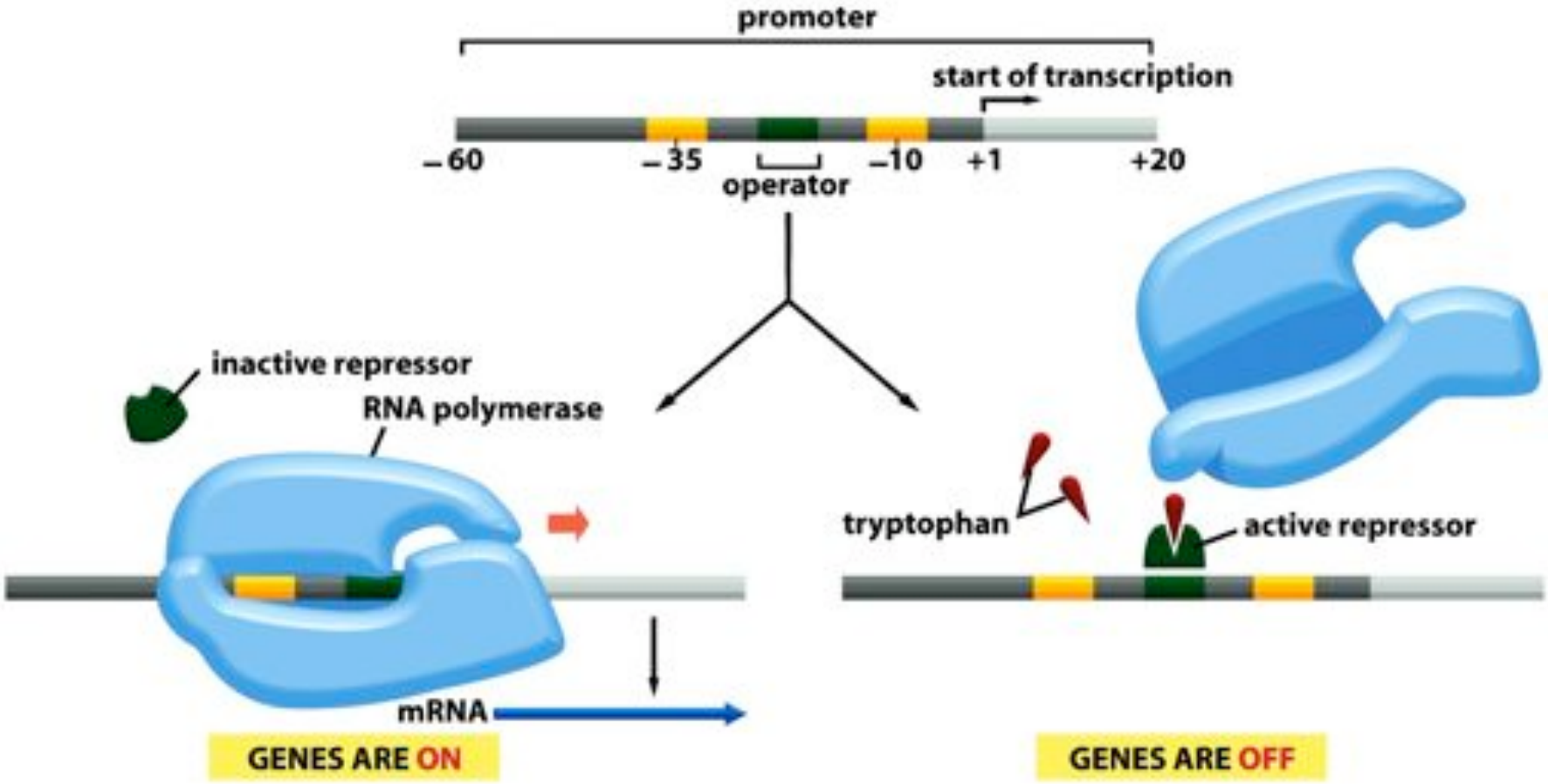


Figure 7-35 *Molecular Biology of the Cell* (© Garland Science 2008)

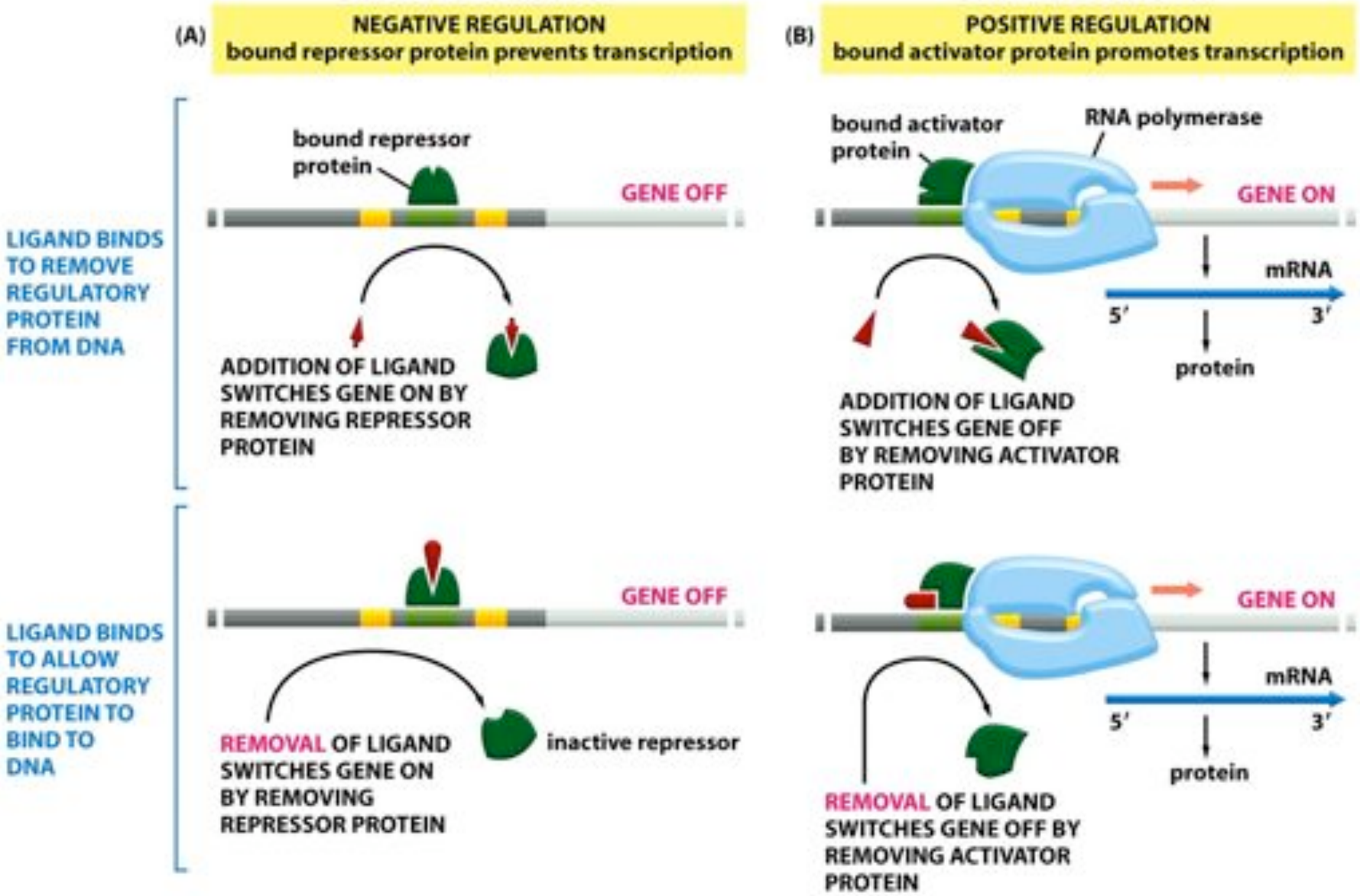


Figure 7-37 *Molecular Biology of the Cell* (© Garland Science 2008)

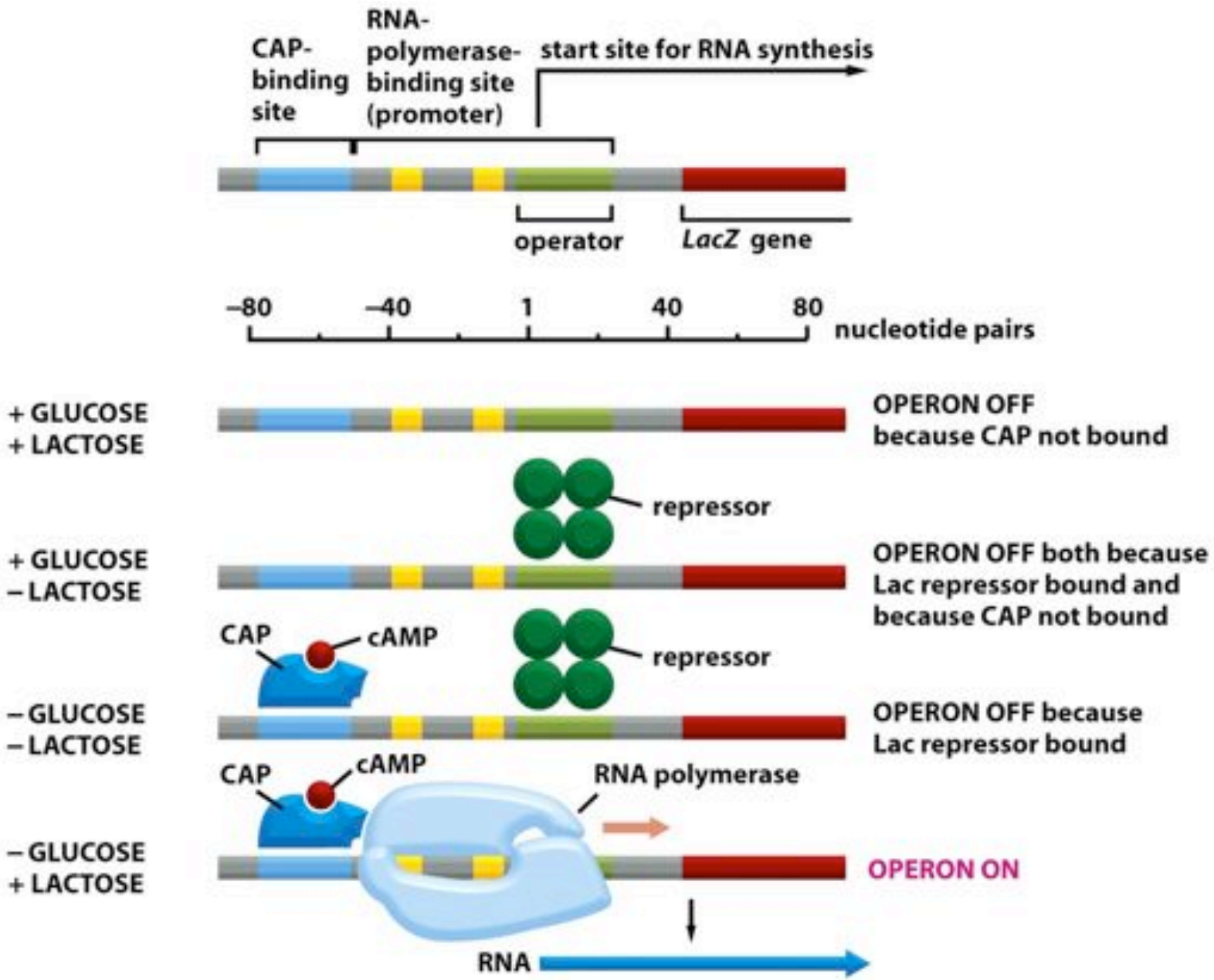


Figure 7-39 *Molecular Biology of the Cell* (© Garland Science 2008)

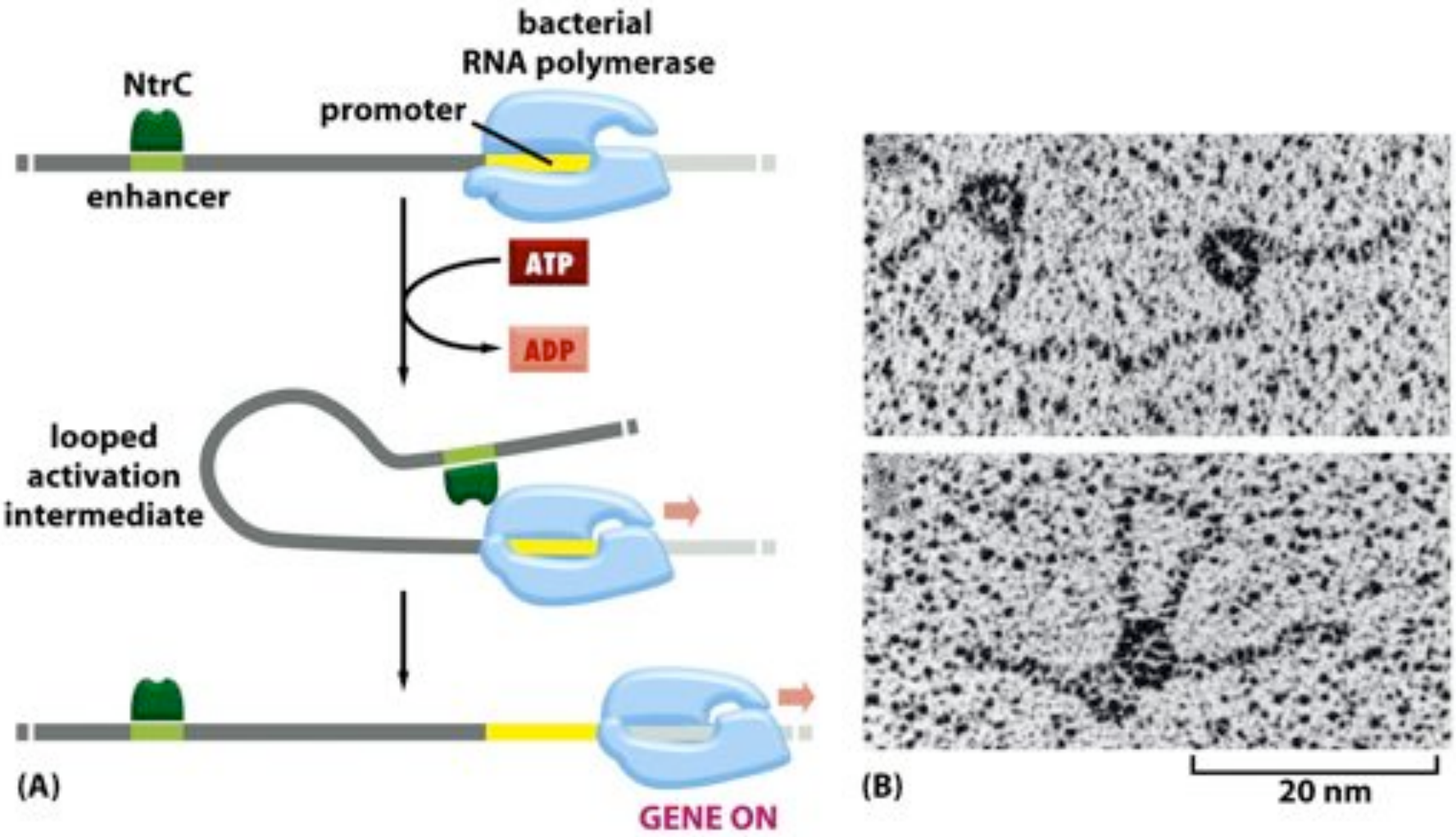


Figure 7-42 *Molecular Biology of the Cell* (© Garland Science 2008)

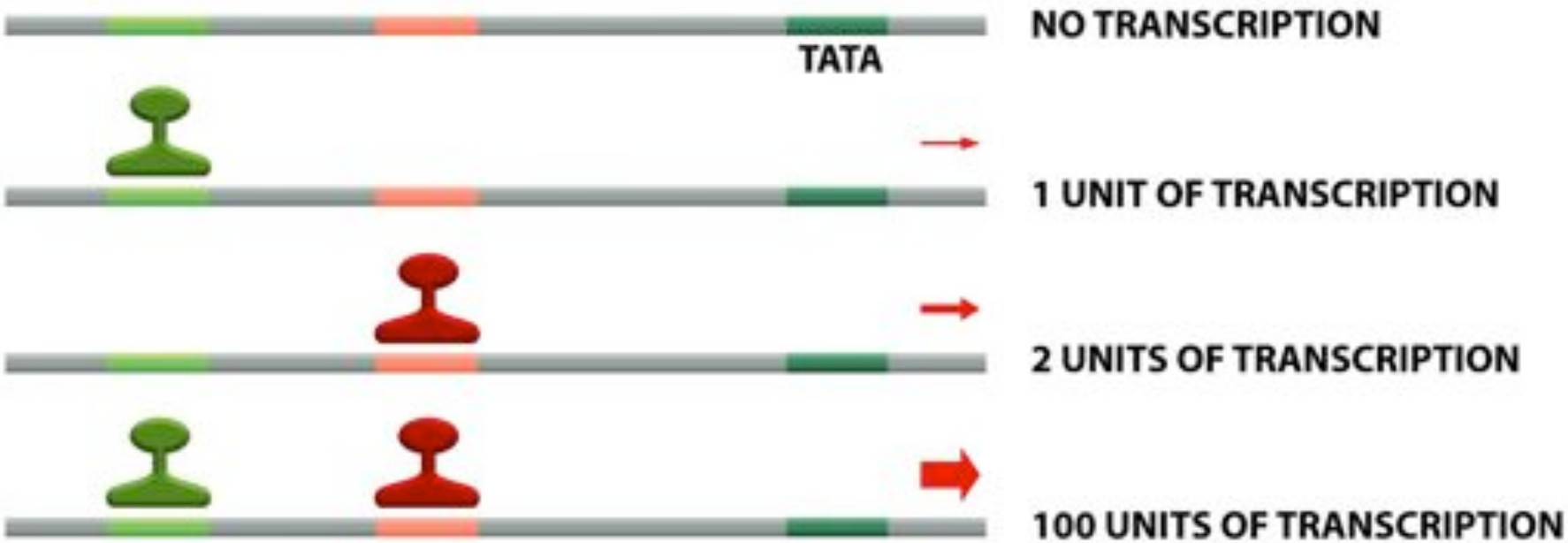


Figure 7-48 *Molecular Biology of the Cell* (© Garland Science 2008)

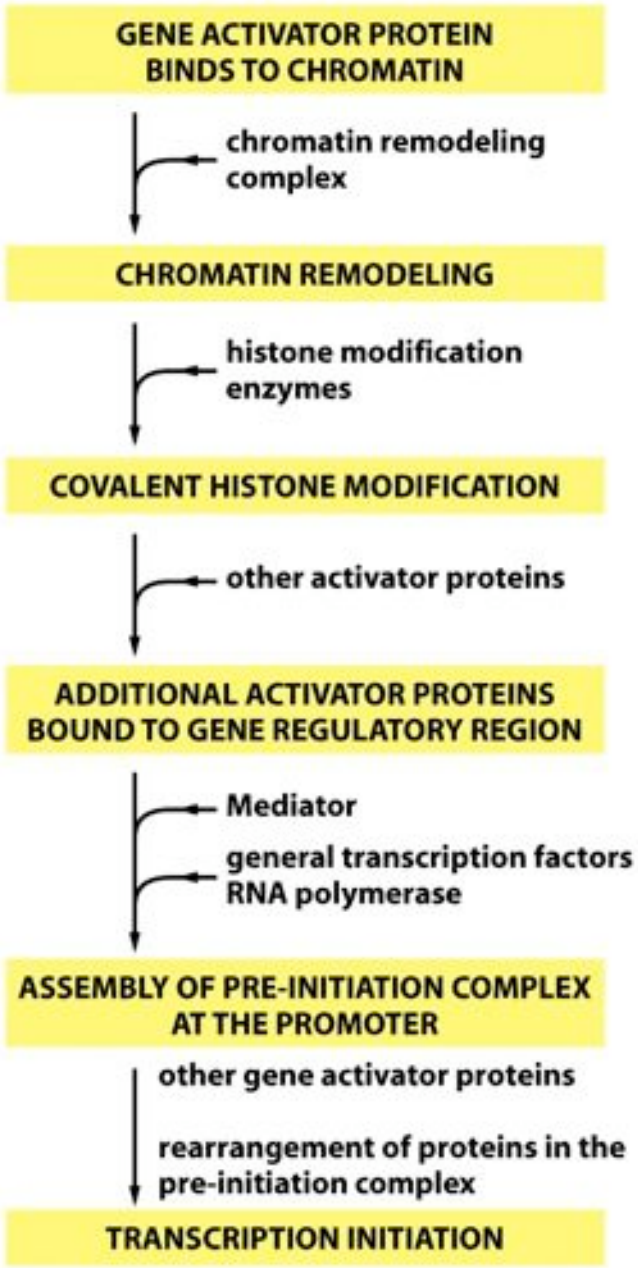


Figure 7-49 *Molecular Biology of the Cell* (© Garland Science 2008)

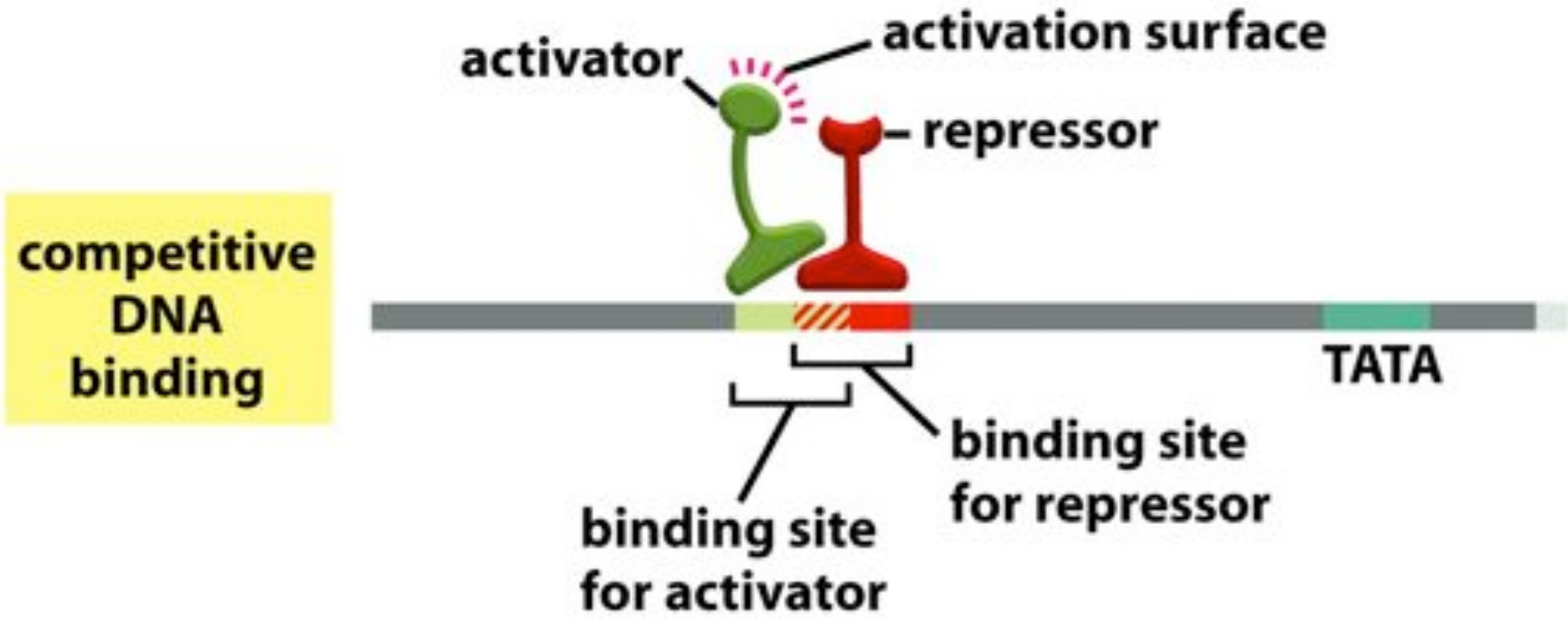


Figure 7-50a *Molecular Biology of the Cell* (© Garland Science 2008)

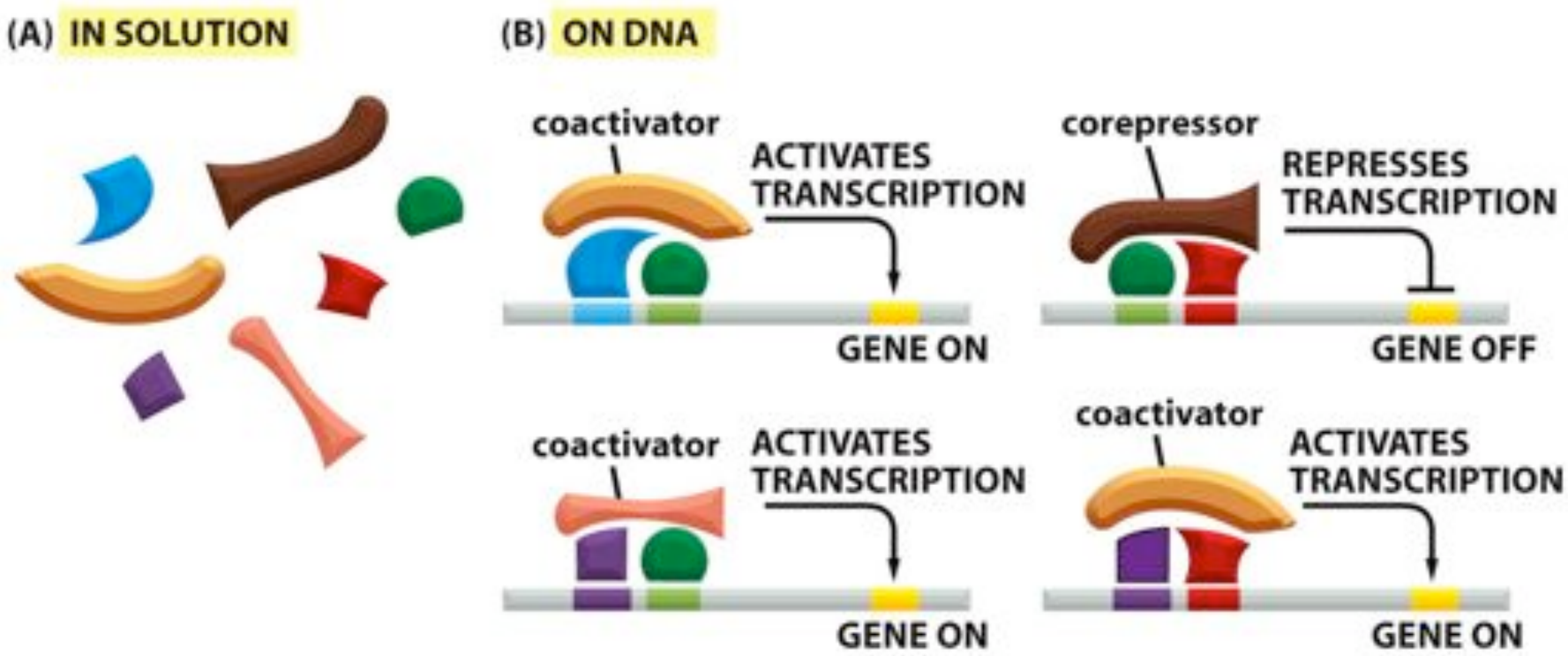


Figure 7-51 *Molecular Biology of the Cell* (© Garland Science 2008)

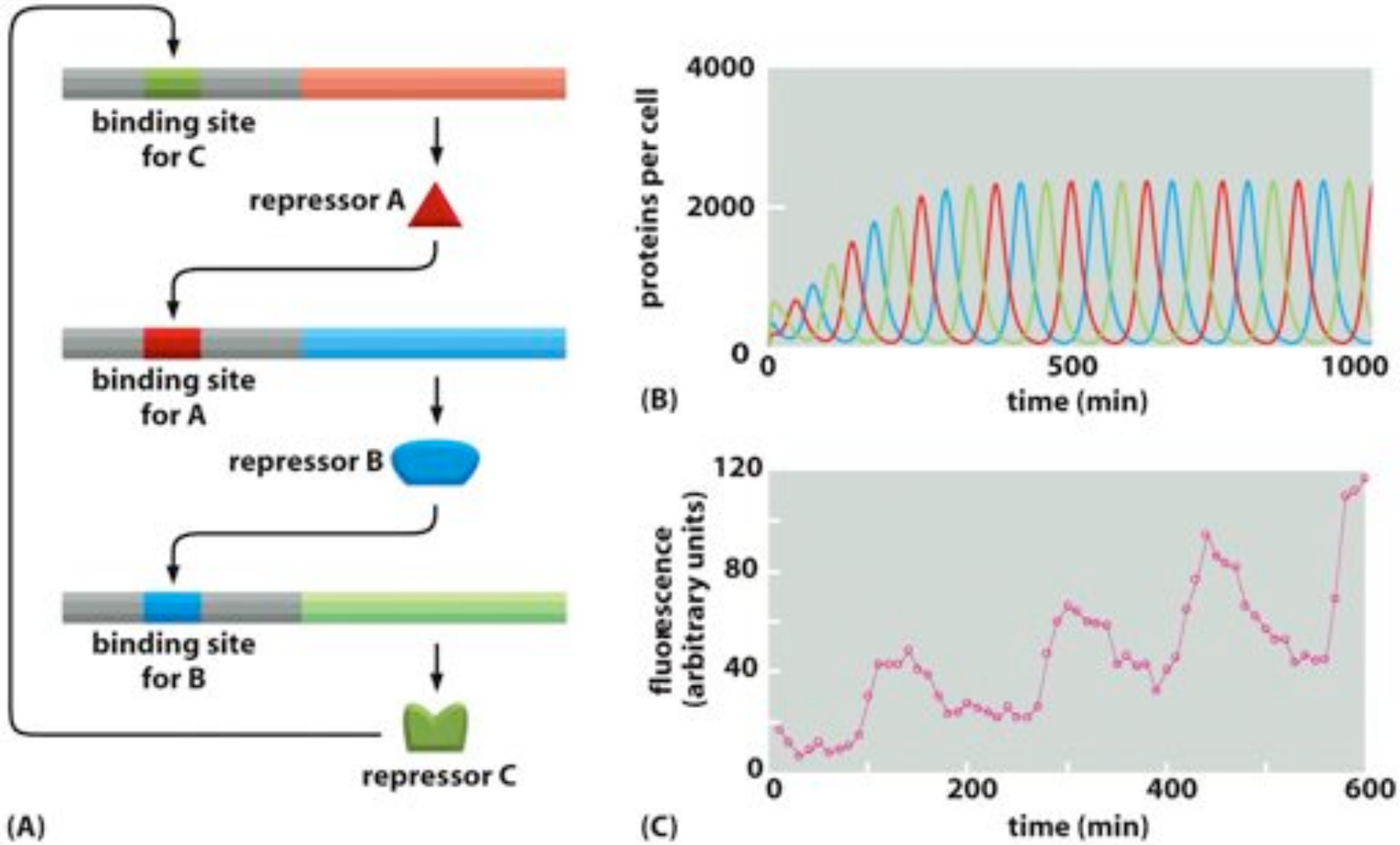


Figure 7-72 *Molecular Biology of the Cell* (© Garland Science 2008)

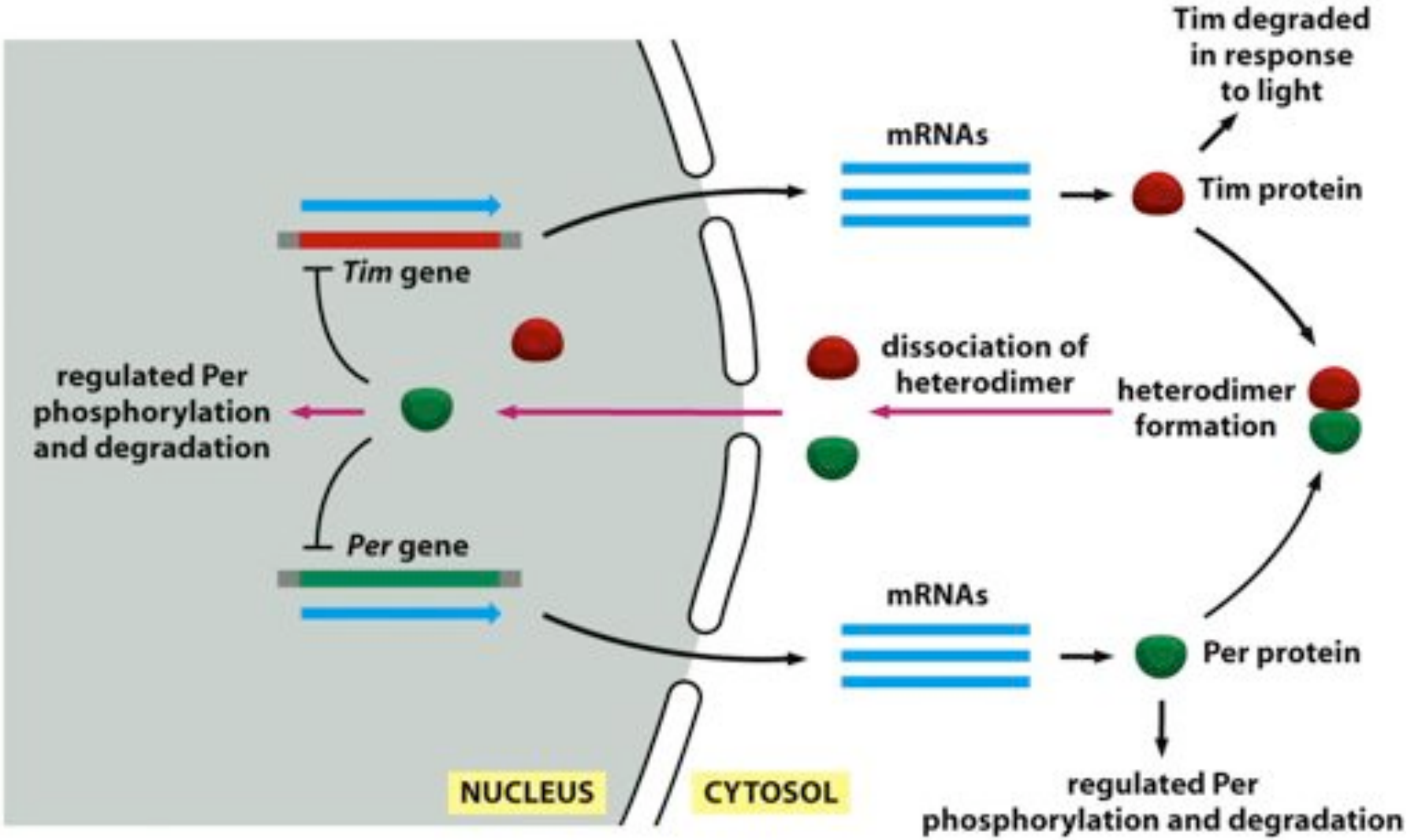


Figure 7-73 *Molecular Biology of the Cell* (© Garland Science 2008)

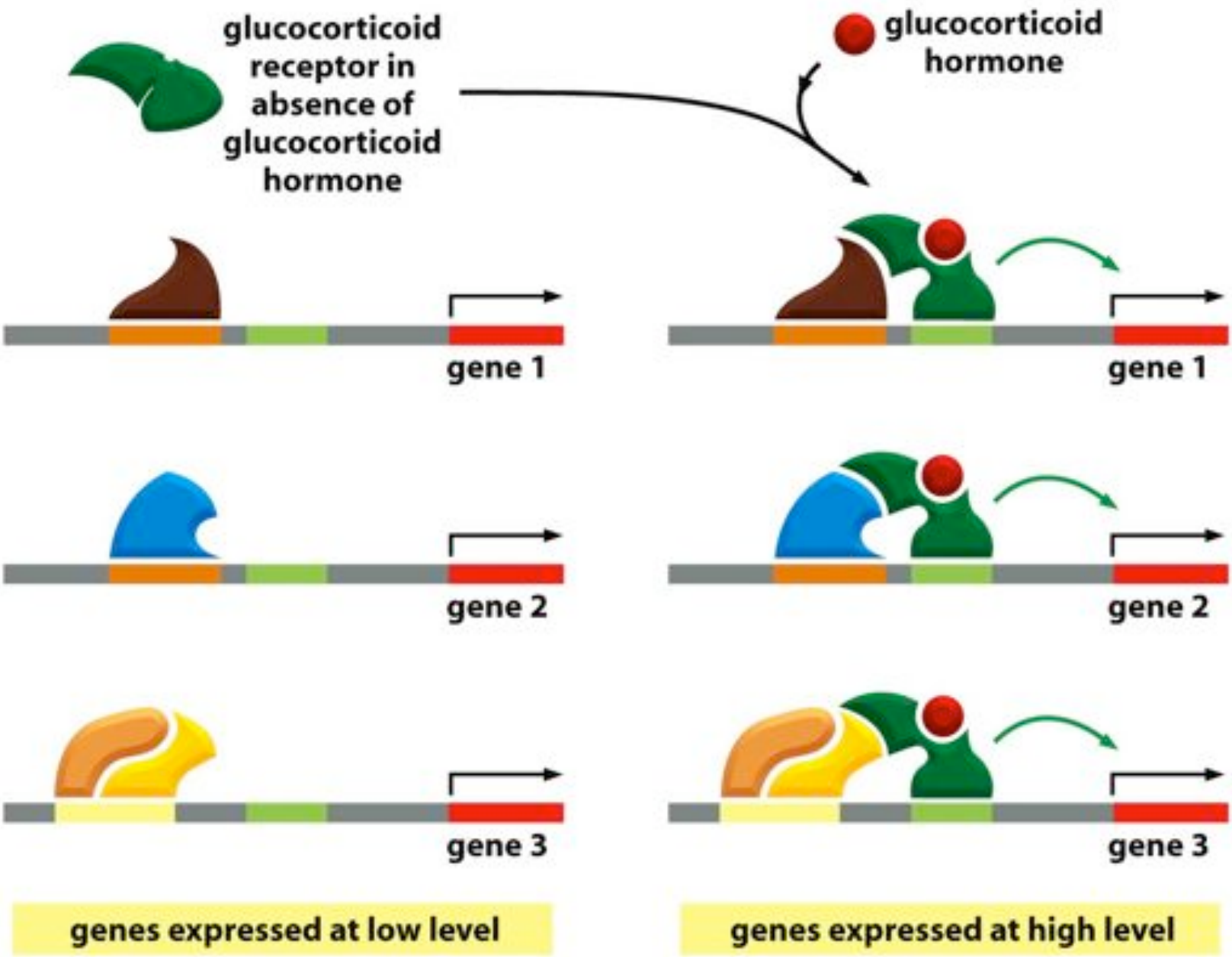


Figure 7-74 *Molecular Biology of the Cell* (© Garland Science 2008)

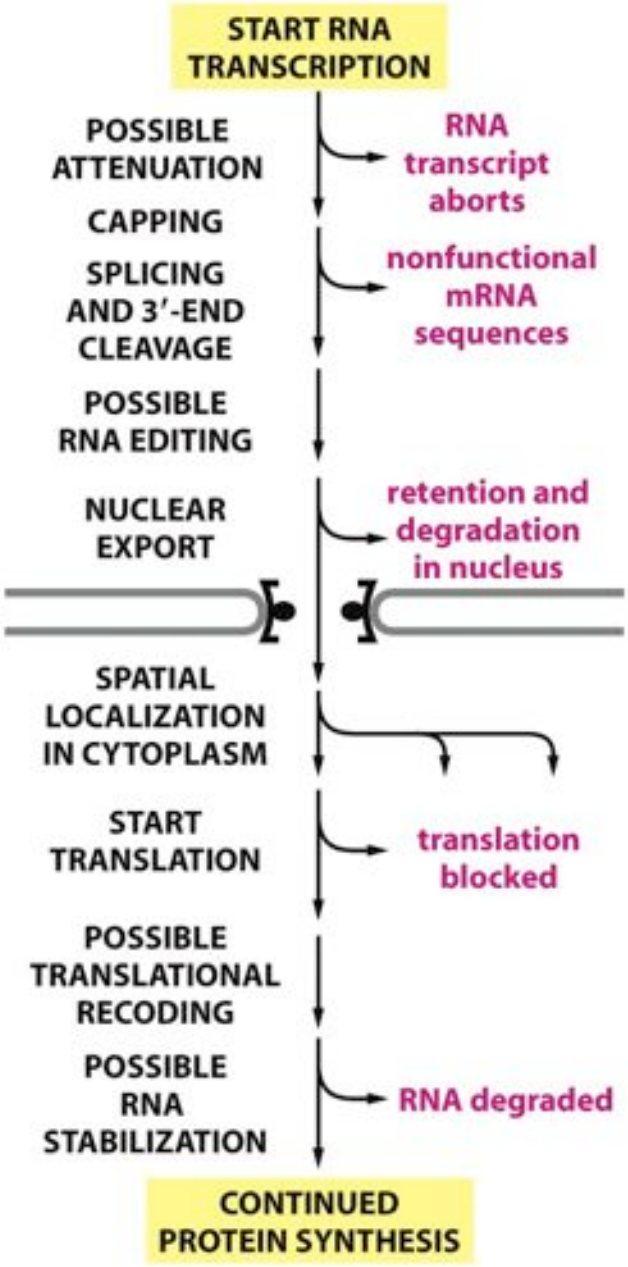


Figure 7-92 *Molecular Biology of the Cell* (© Garland Science 2008)

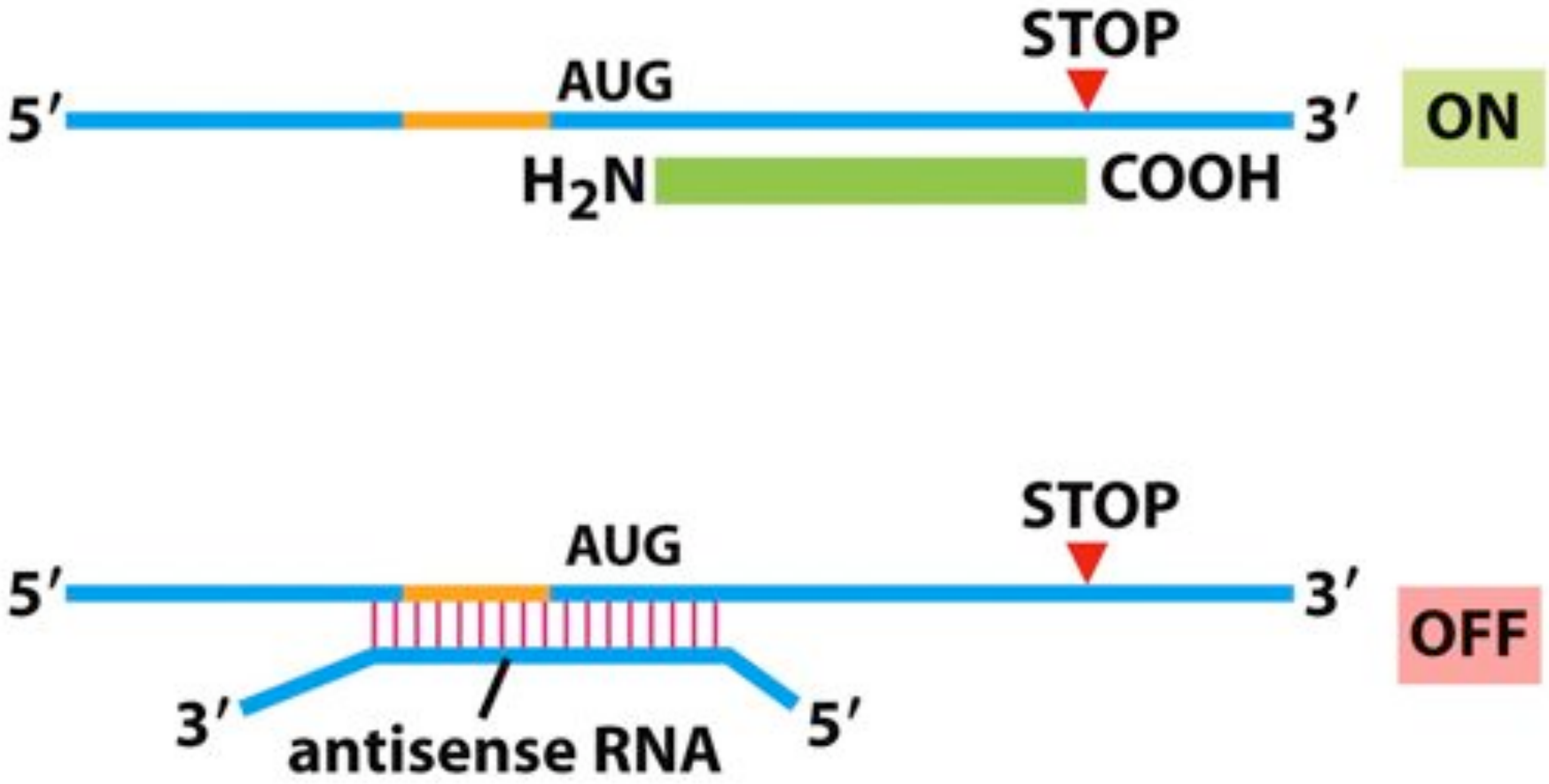


Figure 7-106d *Molecular Biology of the Cell* (© Garland Science 2008)

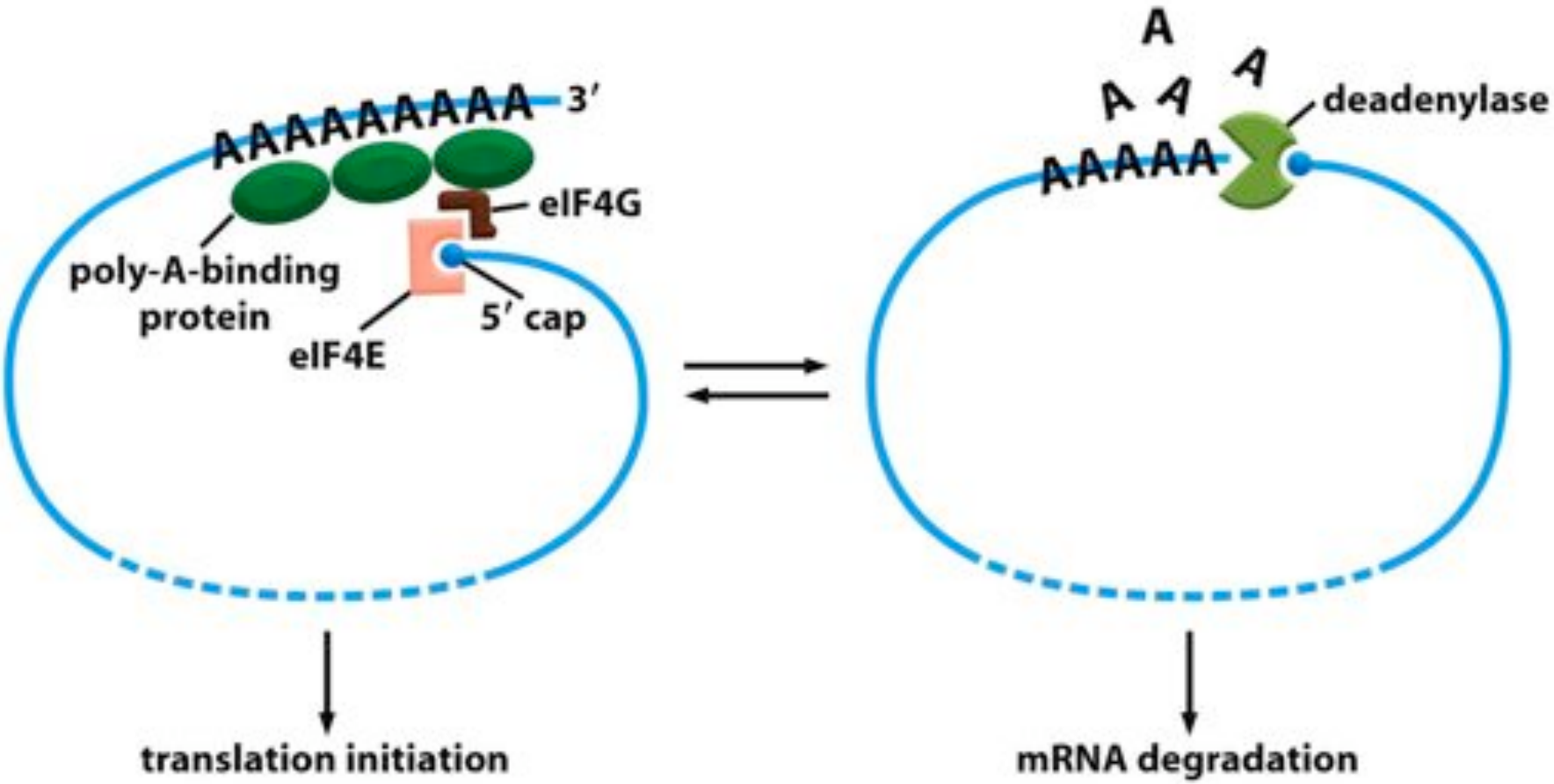


Figure 7-110 *Molecular Biology of the Cell* (© Garland Science 2008)

Destinación de Proteínas y Funciones del RE

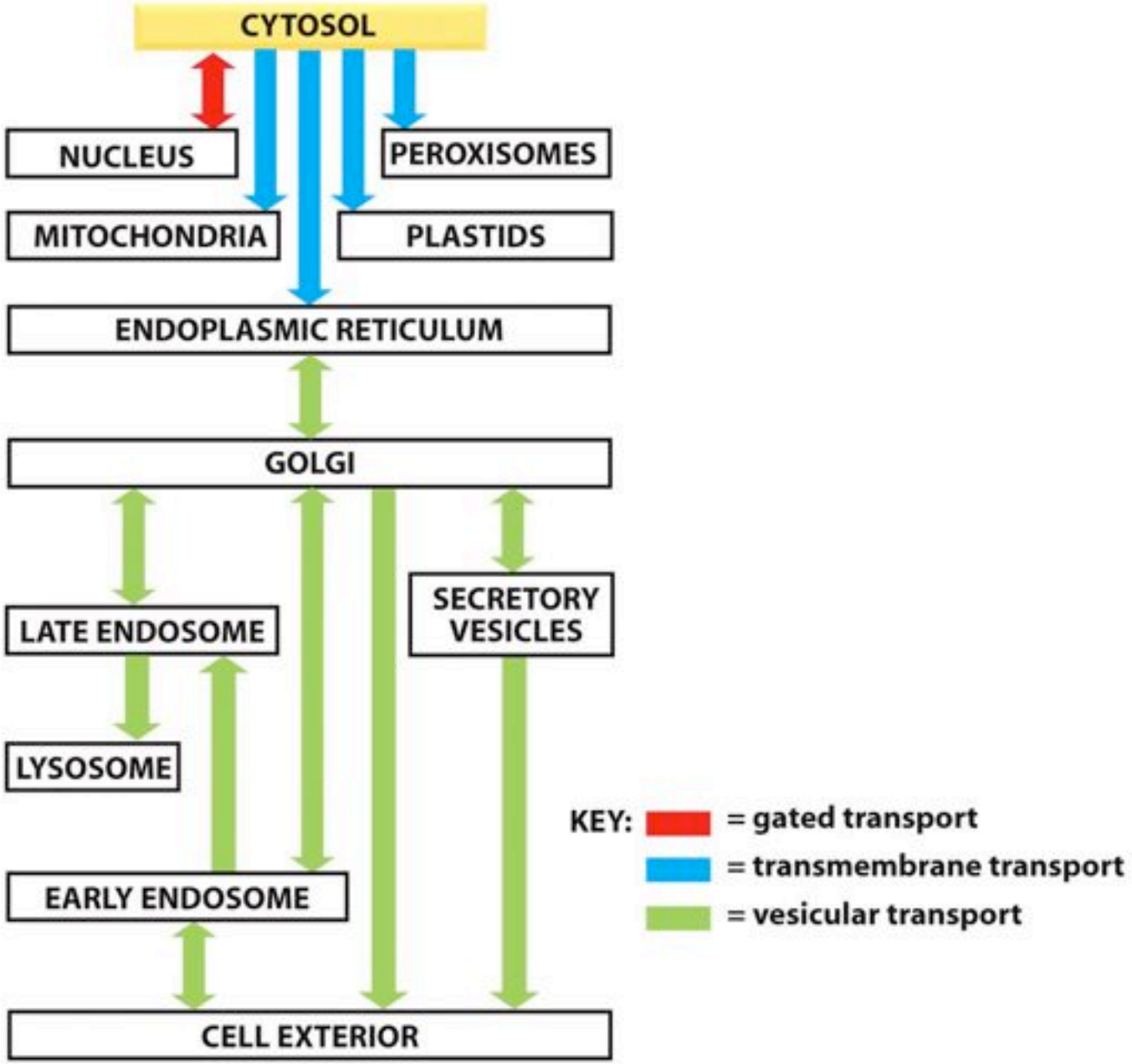


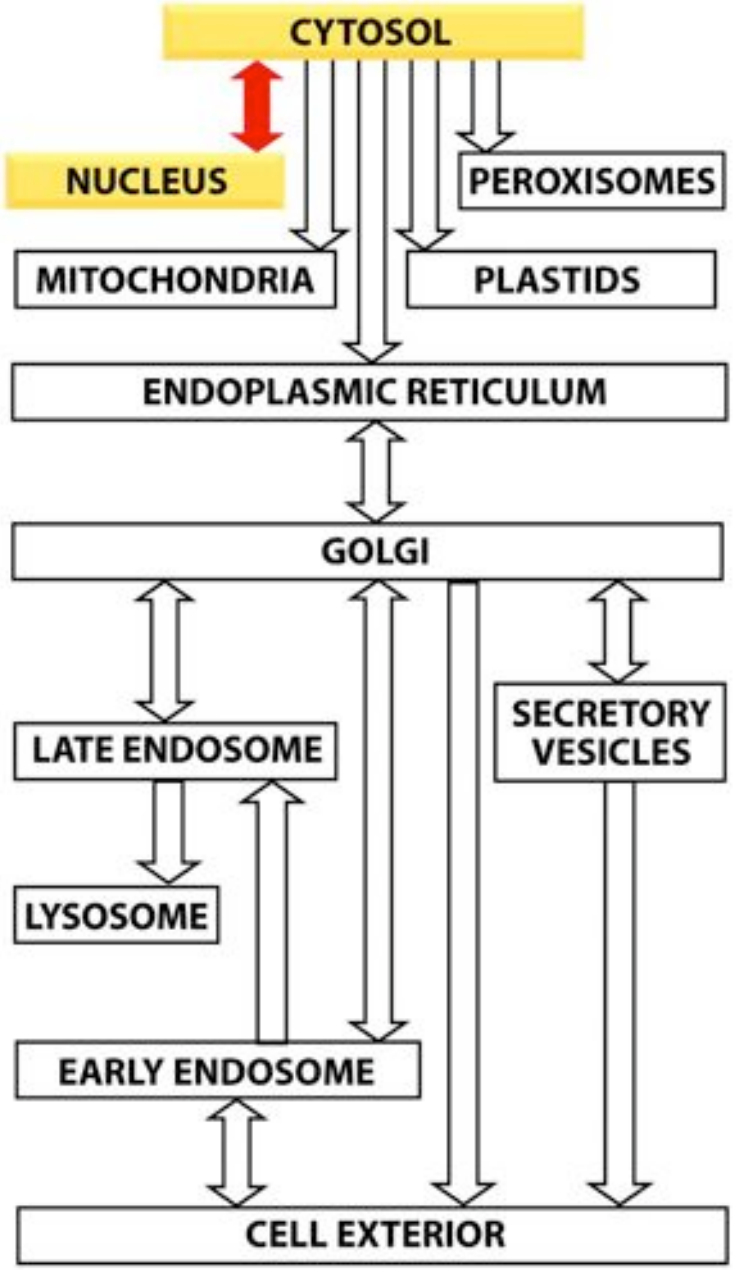
Figure 12-6 *Molecular Biology of the Cell* (© Garland Science 2008)

Table 12–3 Some Typical Signal Sequences

FUNCTION OF SIGNAL SEQUENCE	EXAMPLE OF SIGNAL SEQUENCE
Import into nucleus	-Pro-Pro-Lys-Lys-Lys-Arg-Lys-Val-
Export from nucleus	-Leu-Ala-Leu-Lys-Leu-Ala-Gly-Leu-Asp-Ile-
Import into mitochondria	$^{+}H_3N$-Met-Leu-Ser-Leu-Arg-Gln-Ser-Ile-Arg-Phe-Phe-Lys-Pro-Ala-Thr-Arg-Thr-Leu-Cys-Ser-Ser-Arg-Tyr-Leu-Leu-
Import into plastid	$^{+}H_3N$-Met-Val-Ala-Met-Ala-Met-Ala-Ser-Leu-Gln-Ser-Ser-Met-Ser-Ser-Leu-Ser-Leu-Ser-Ser-Asn-Ser-Phe-Leu-Gly-Gln-Pro-Leu-Ser-Pro-Ile-Thr-Leu-Ser-Pro-Phe-Leu-Gln-Gly-
Import into peroxisomes	-Ser-Lys-Leu-COO^-
Import into ER	$^{+}H_3N$-Met-Met-Ser-Phe-Val-Ser-Leu-Leu-Leu-Val-Gly-Ile-Leu-Phe-Trp-Ala-Thr-Glu-Ala-Glu-Gln-Leu-Thr-Lys-Cys-Glu-Val-Phe-Gln-
Return to ER	-Lys-Asp-Glu-Leu-COO^-

Some characteristic features of the different classes of signal sequences are highlighted in color. Where they are known to be important for the function of the signal sequence, positively charged amino acids are shown in *red* and negatively charged amino acids are shown in *green*. Similarly, important hydrophobic amino acids are shown in *white* and hydroxylated amino acids are shown in *blue*. $^{+}H_3N$ indicates the N-terminus of a protein; COO^- indicates the C-terminus.

Table 12-3 *Molecular Biology of the Cell* (© Garland Science 2008)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MITOCHONDRIA
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GOLGI
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SECRETORY VESICLES
LYSOSOME
EARLY ENDOSOME
CELL EXTERIOR

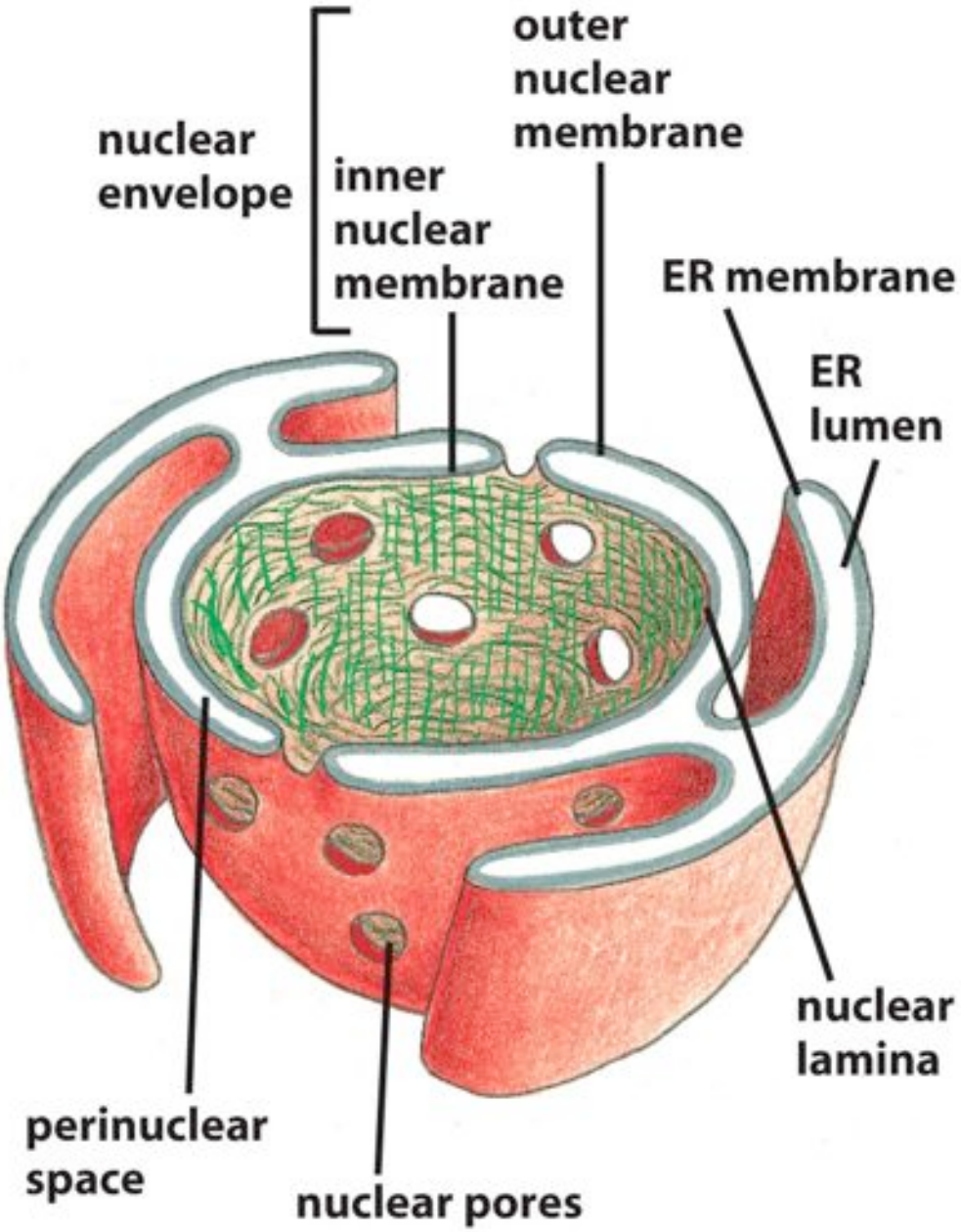


Figure 12-8 *Molecular Biology of the Cell* (© Garland Science 2008)

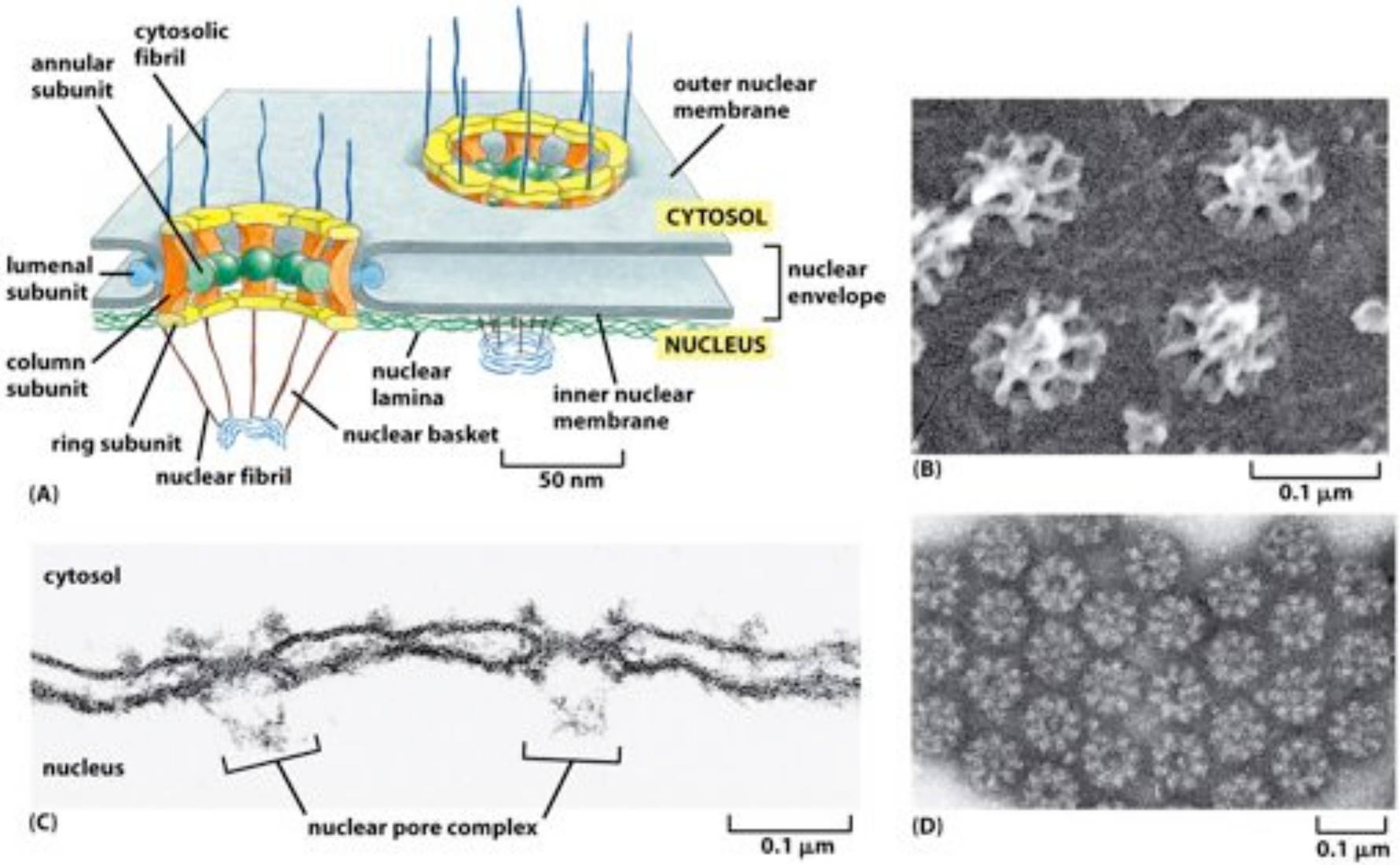


Figure 12-9 *Molecular Biology of the Cell* (© Garland Science 2008)

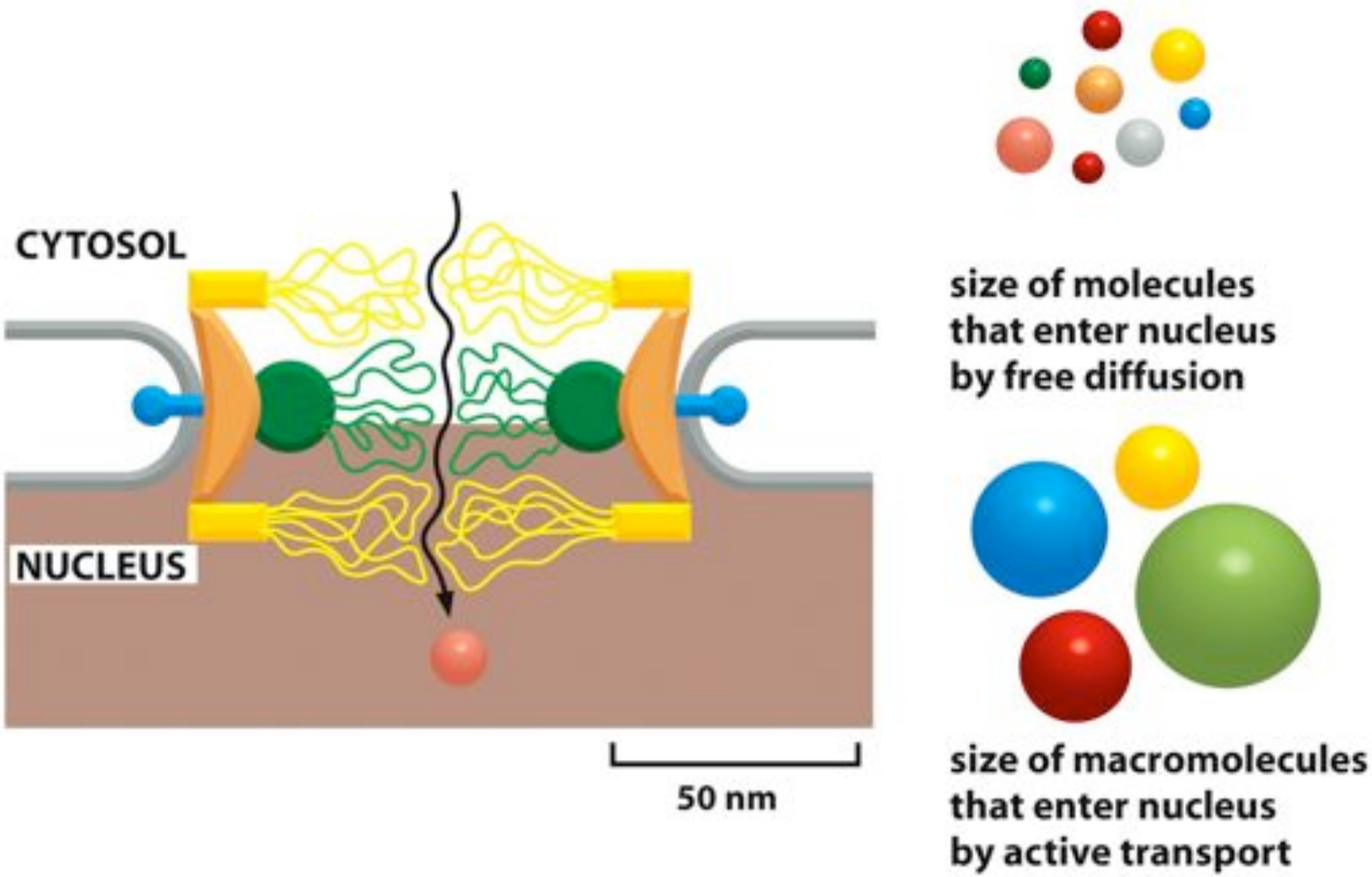


Figure 12-10 *Molecular Biology of the Cell* (© Garland Science 2008)

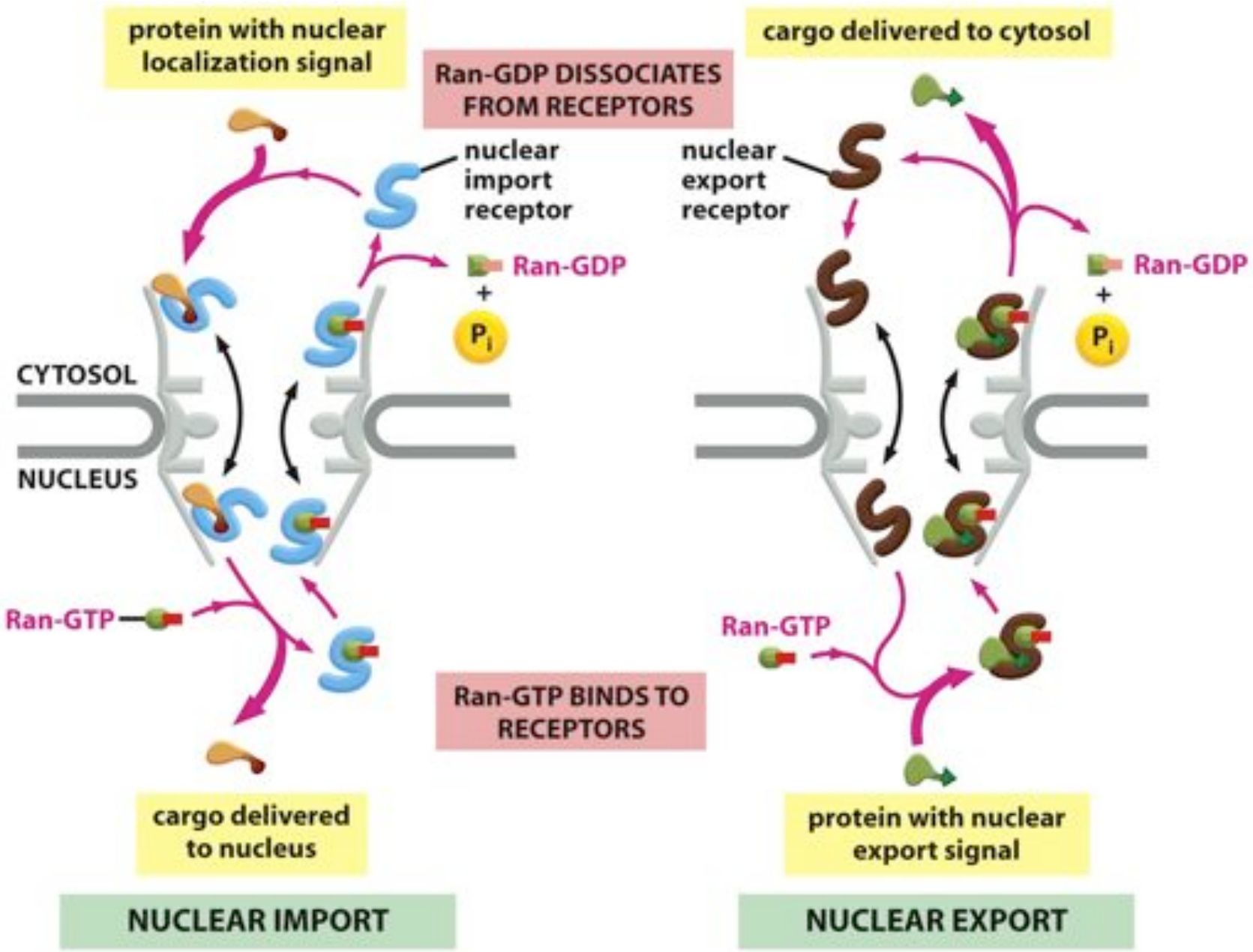


Figure 12-15 *Molecular Biology of the Cell* (© Garland Science 2008)

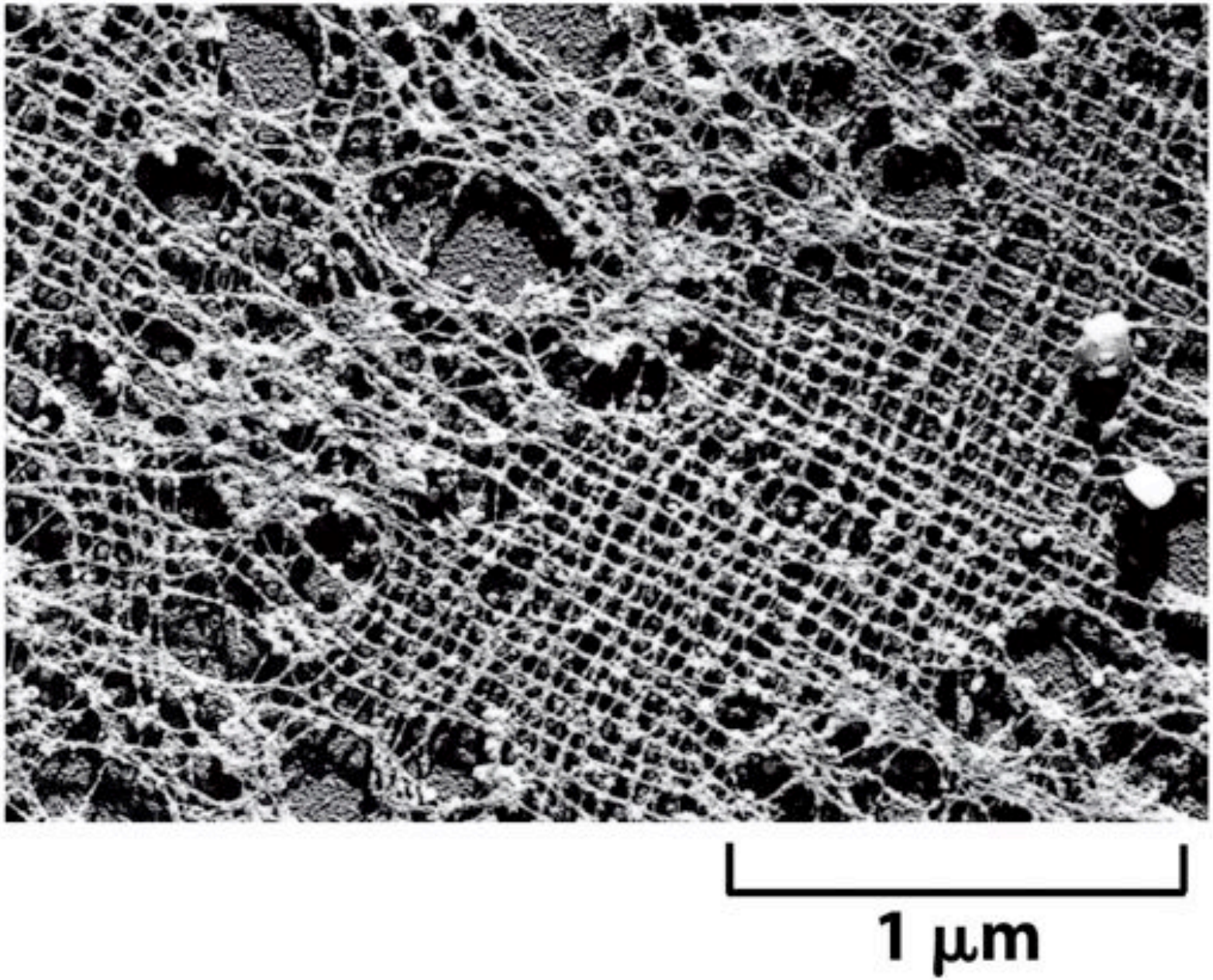


Figure 12-19 *Molecular Biology of the Cell* (© Garland Science 2008)

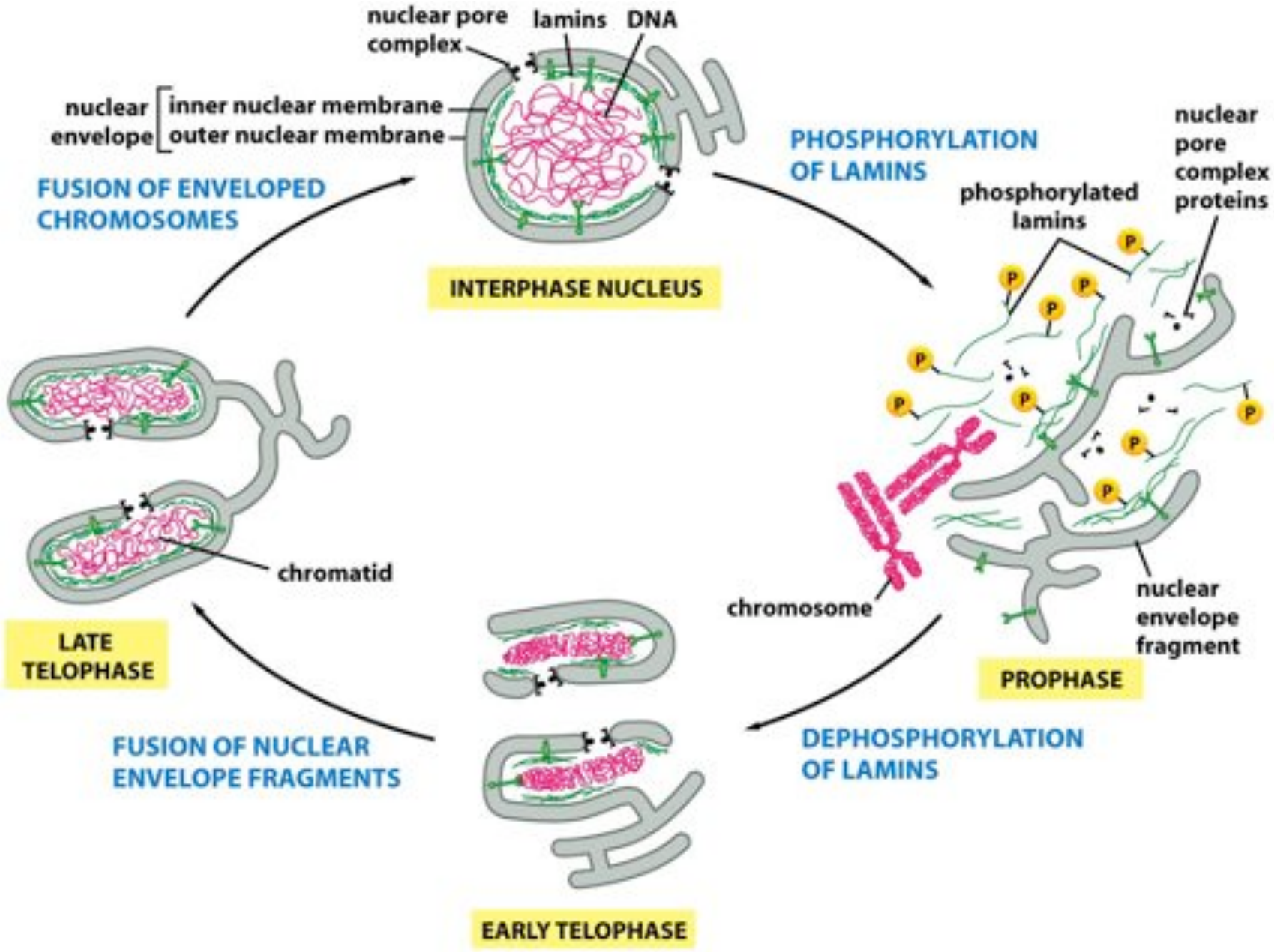
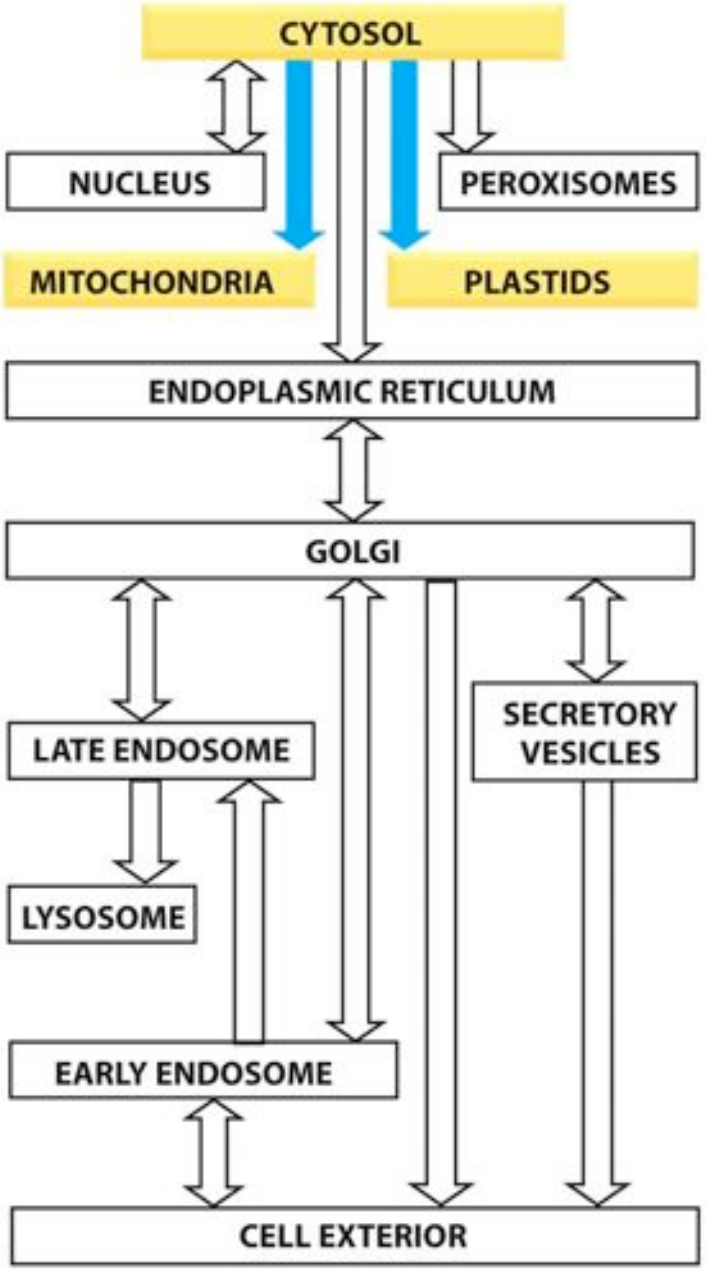


Figure 12-20 *Molecular Biology of the Cell* (© Garland Science 2008)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NUCLEUS
PEROXISOMES
MITOCHONDRIA
PLASTIDS
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GOLGI
LATE ENDOSOME
SECRETORY VESICLES
LYSOSOME
EARLY ENDOSOME
CELL EXTERIOR

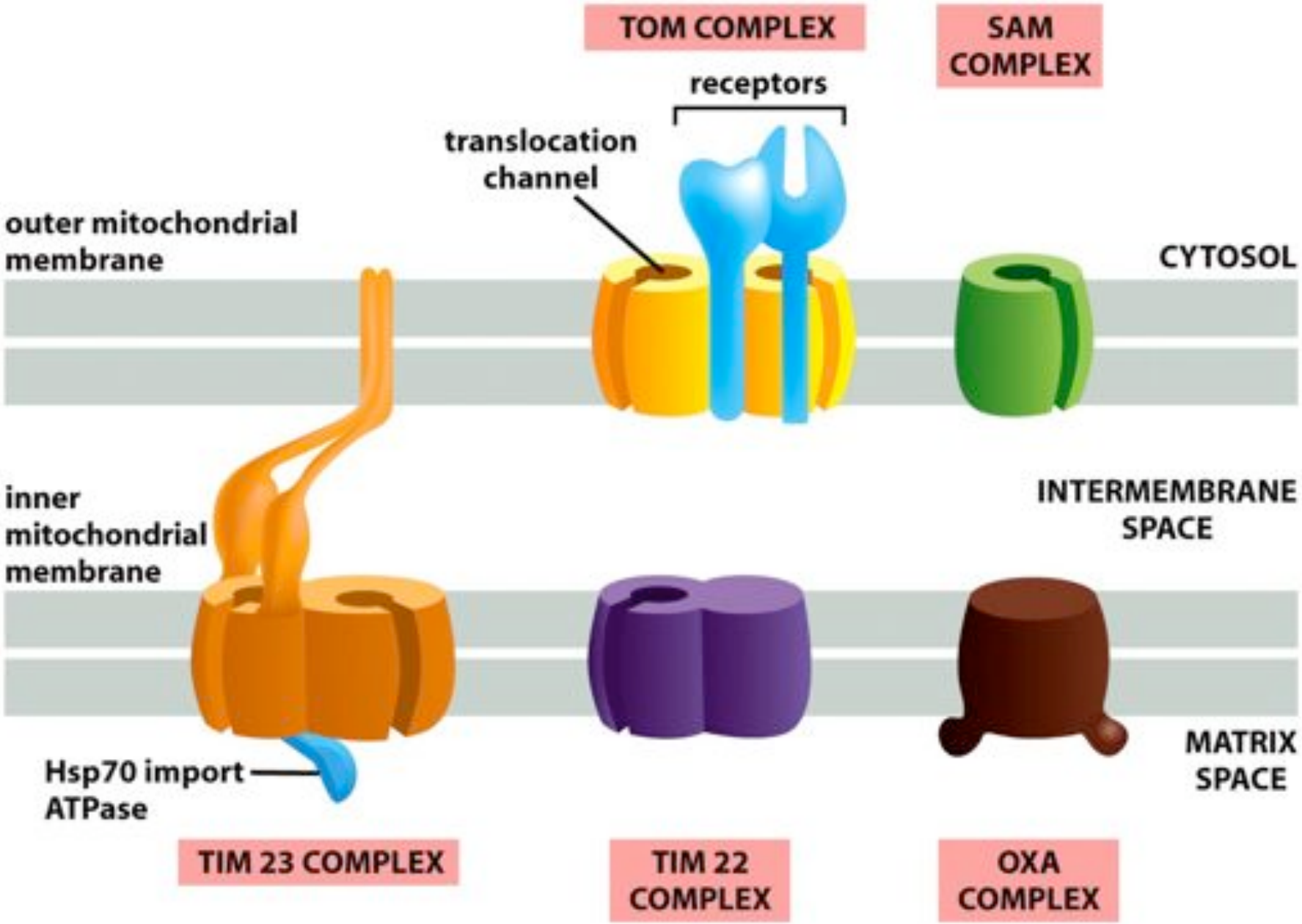


Figure 12-23 *Molecular Biology of the Cell* (© Garland Science 2008)

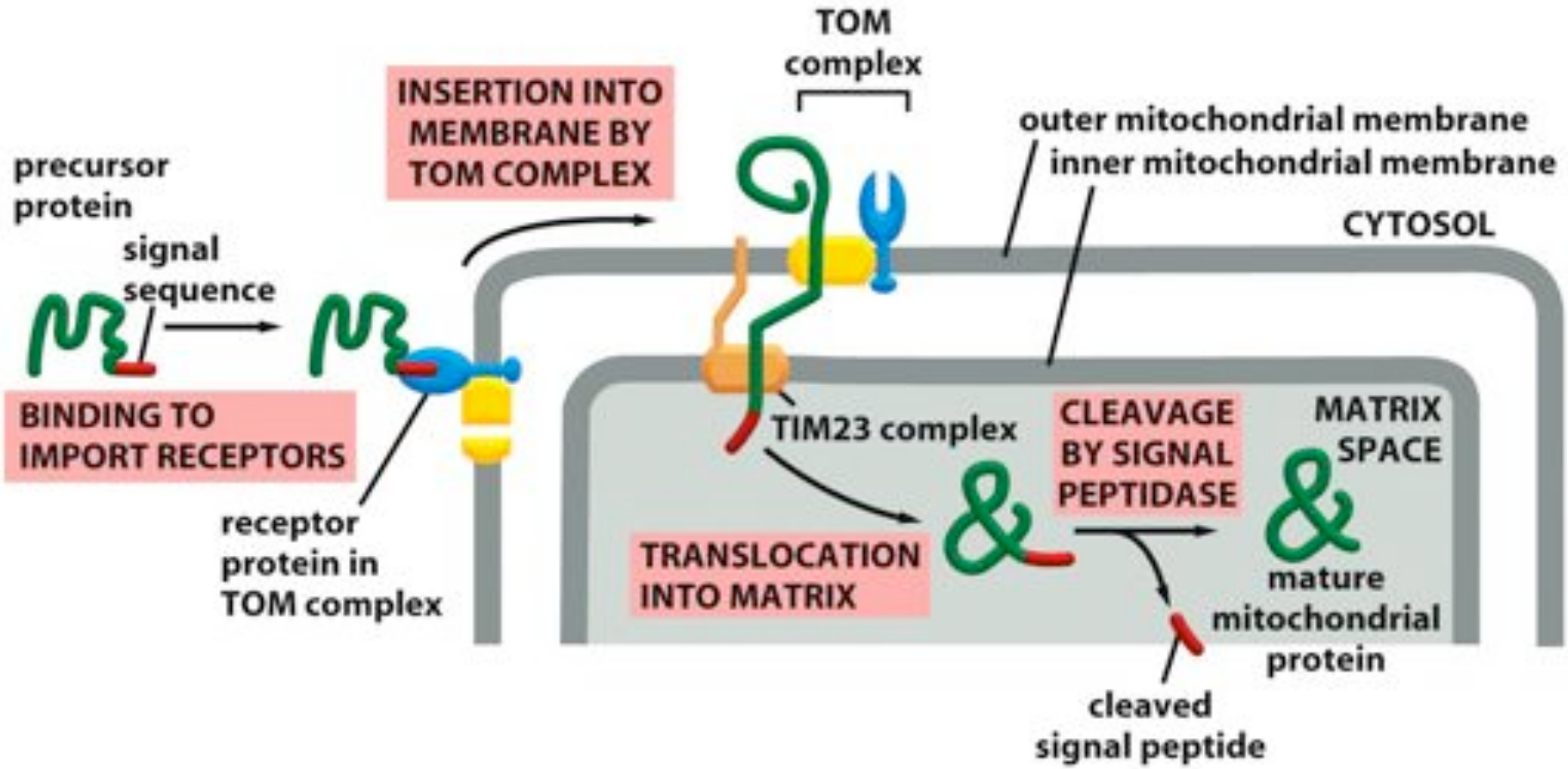


Figure 12-25 *Molecular Biology of the Cell* (© Garland Science 2008)

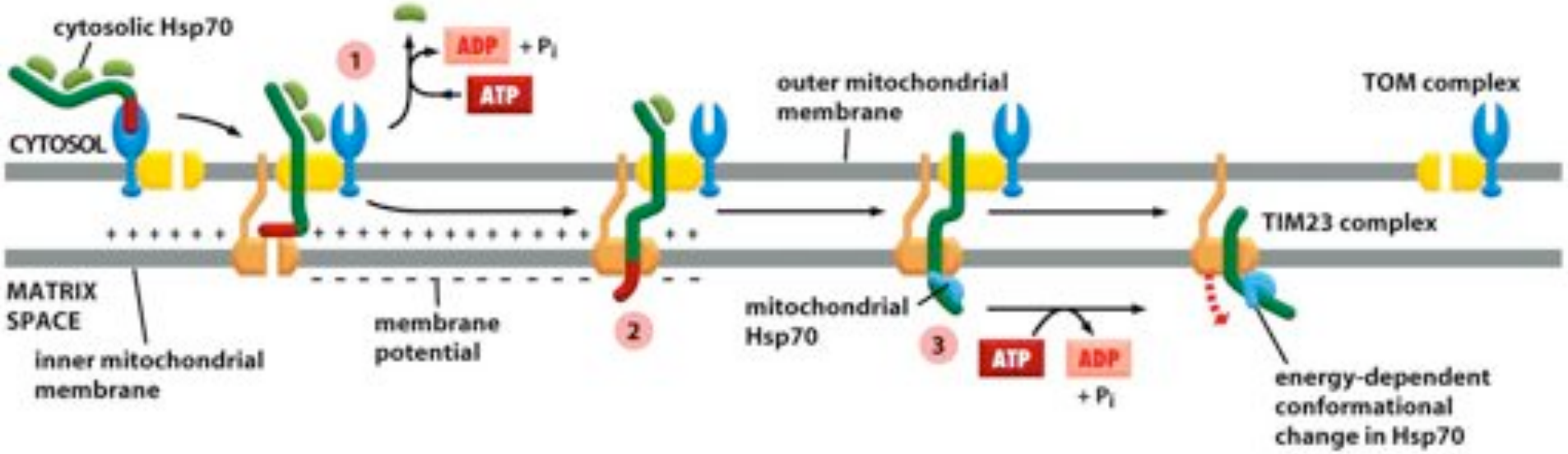


Figure 12-26 *Molecular Biology of the Cell* (© Garland Science 2008)

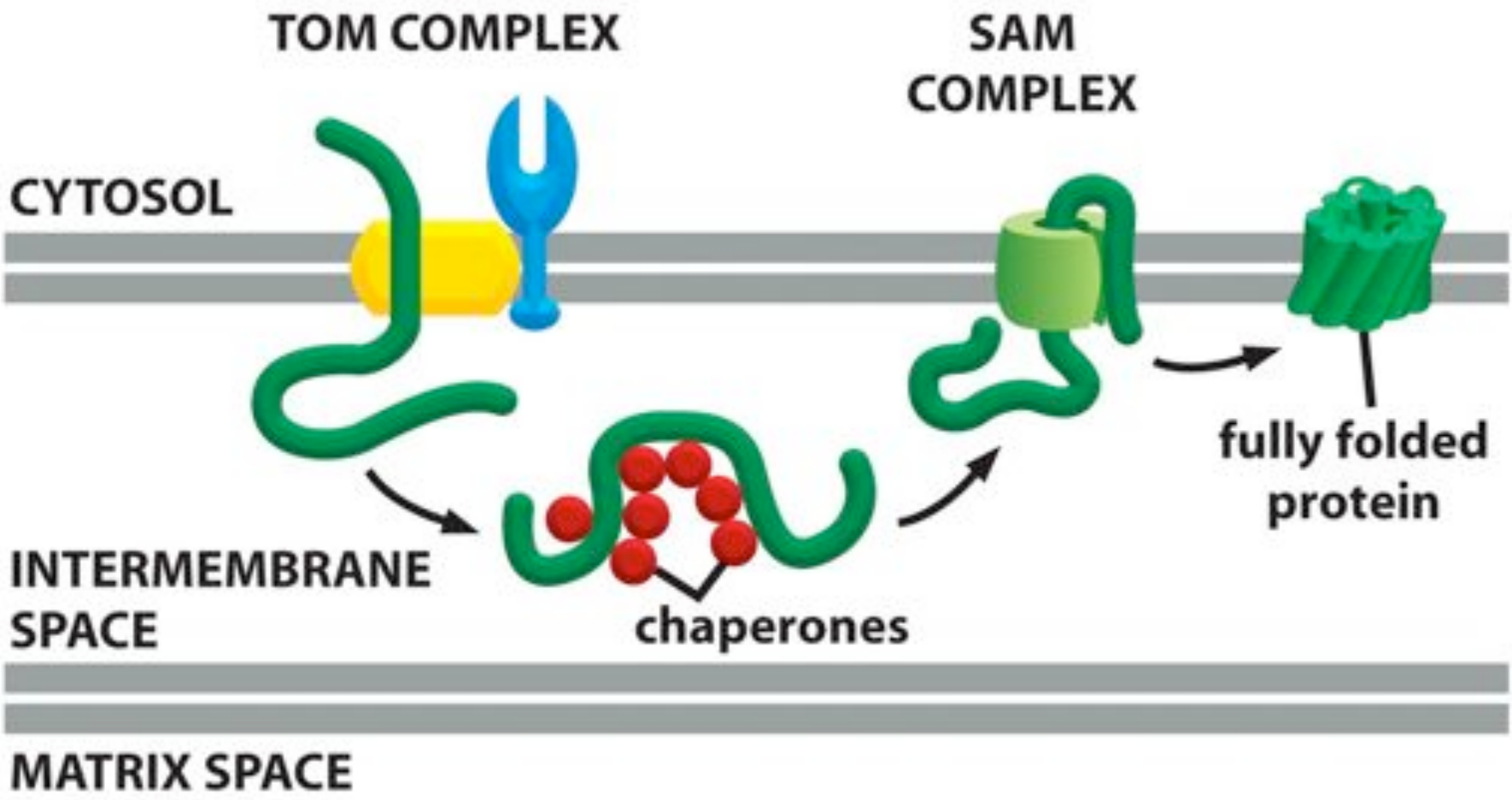


Figure 12-27 *Molecular Biology of the Cell* (© Garland Science 2008)

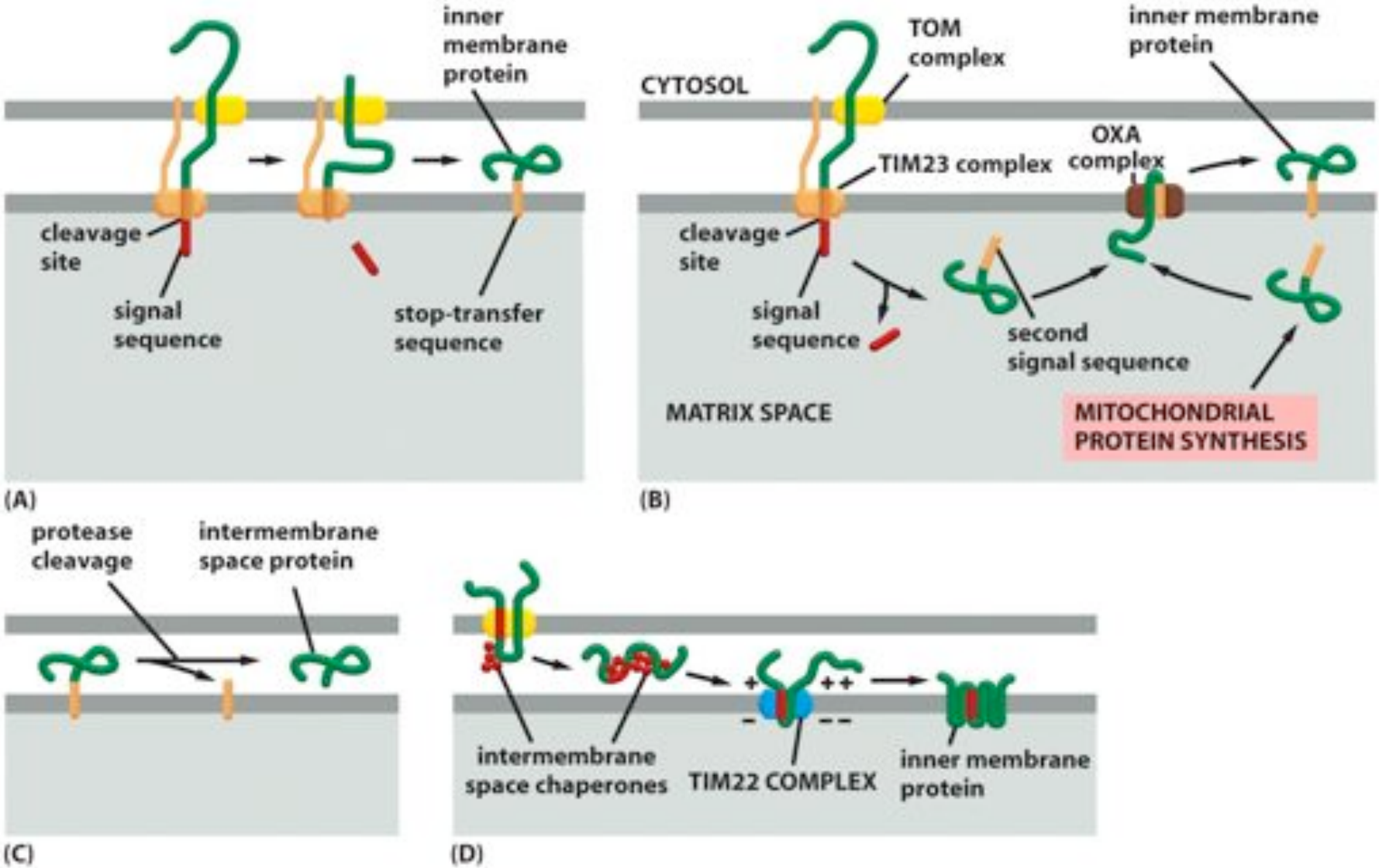


Figure 12-28 *Molecular Biology of the Cell* (© Garland Science 2008)

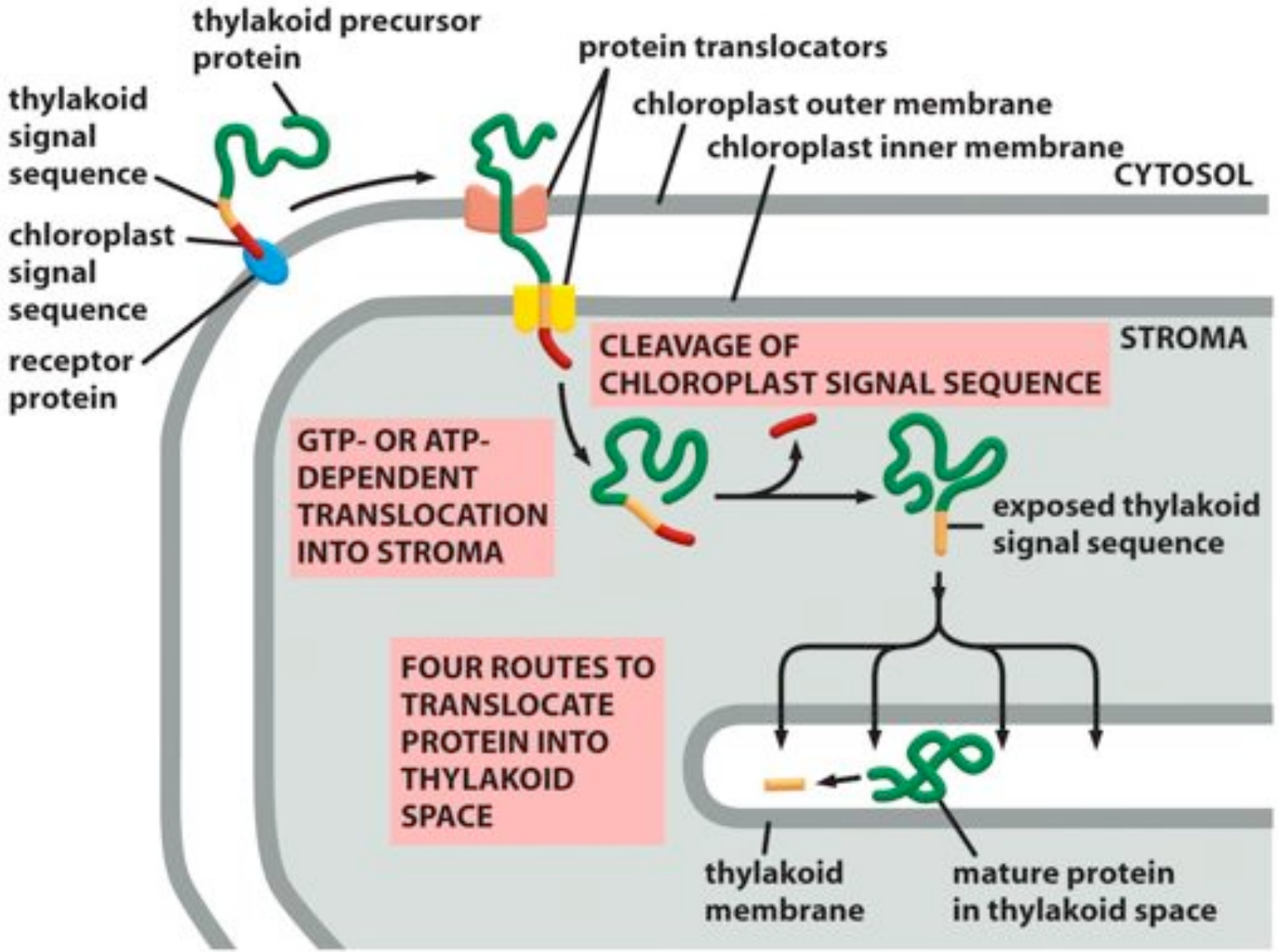


Figure 12-29a *Molecular Biology of the Cell* (© Garland Science 2008)

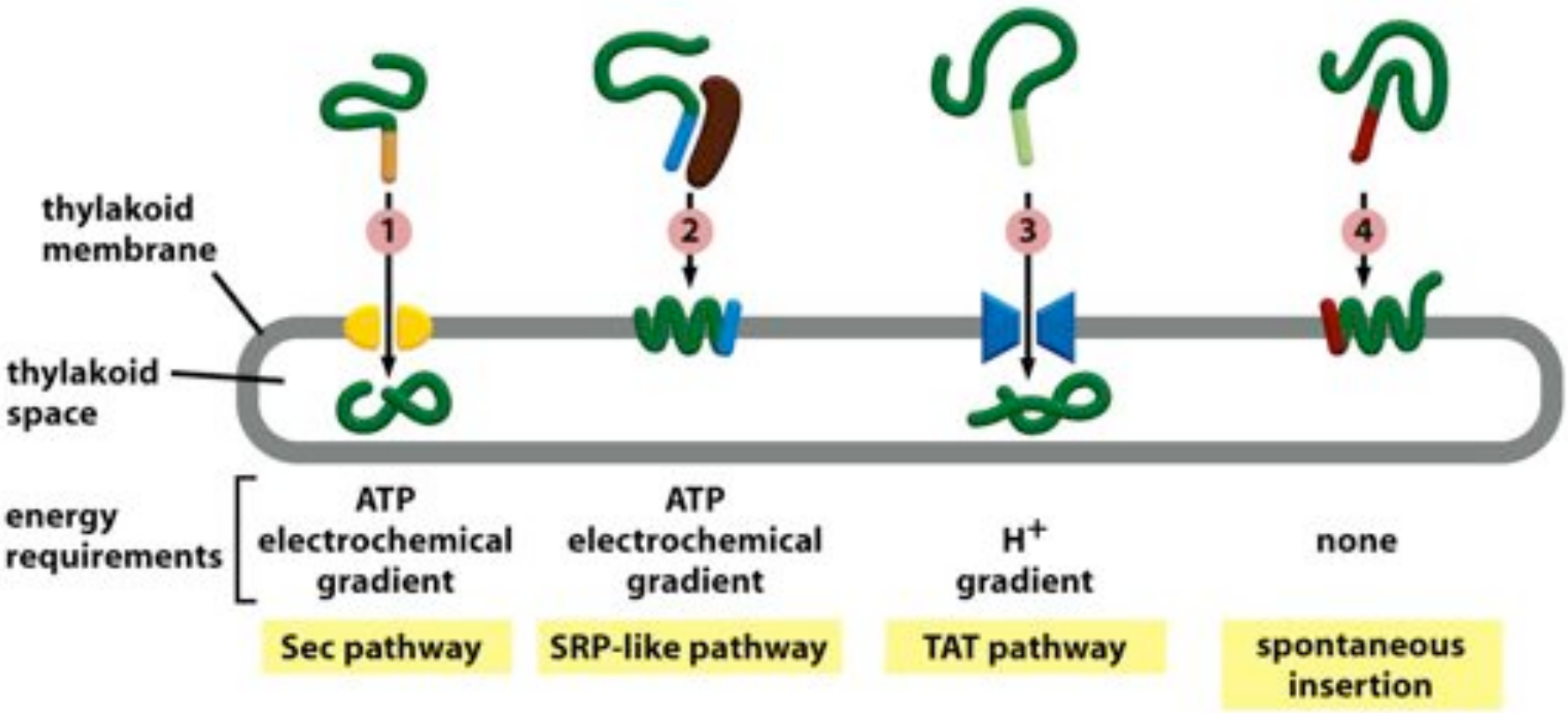
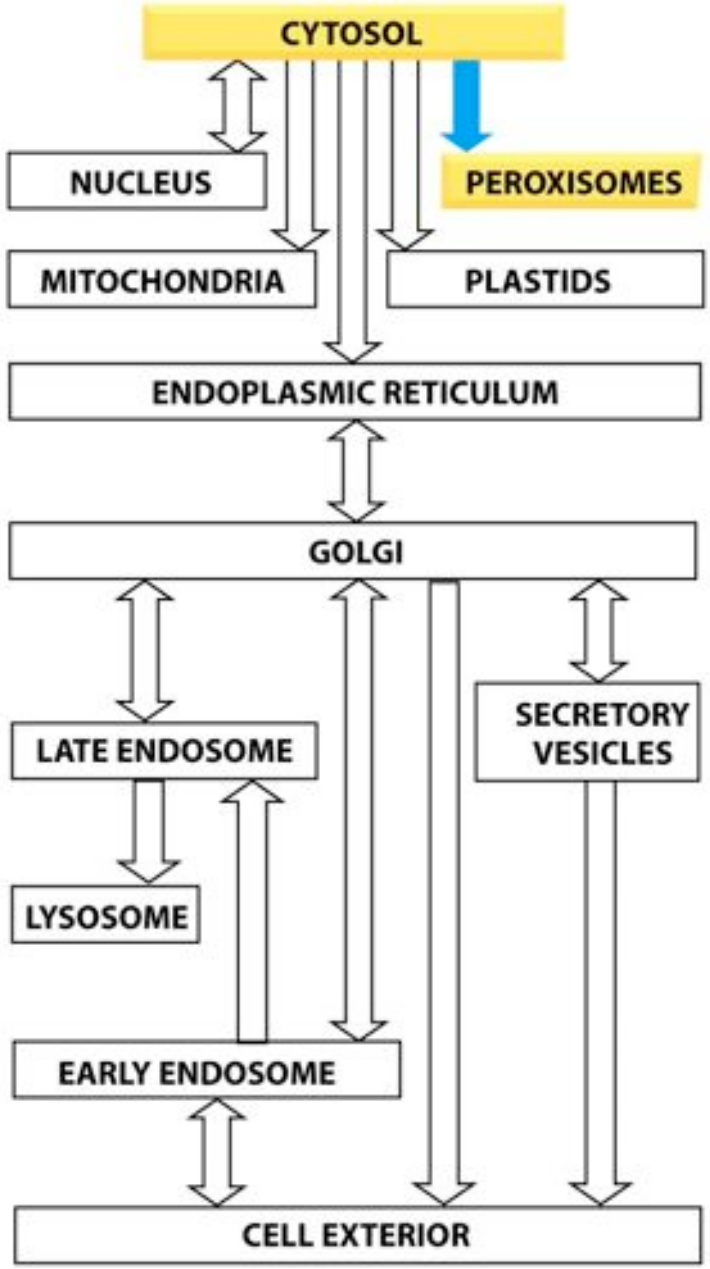


Figure 12-29b *Molecular Biology of the Cell* (© Garland Science 2008)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EARLY ENDOSOME
CELL EXTERIOR

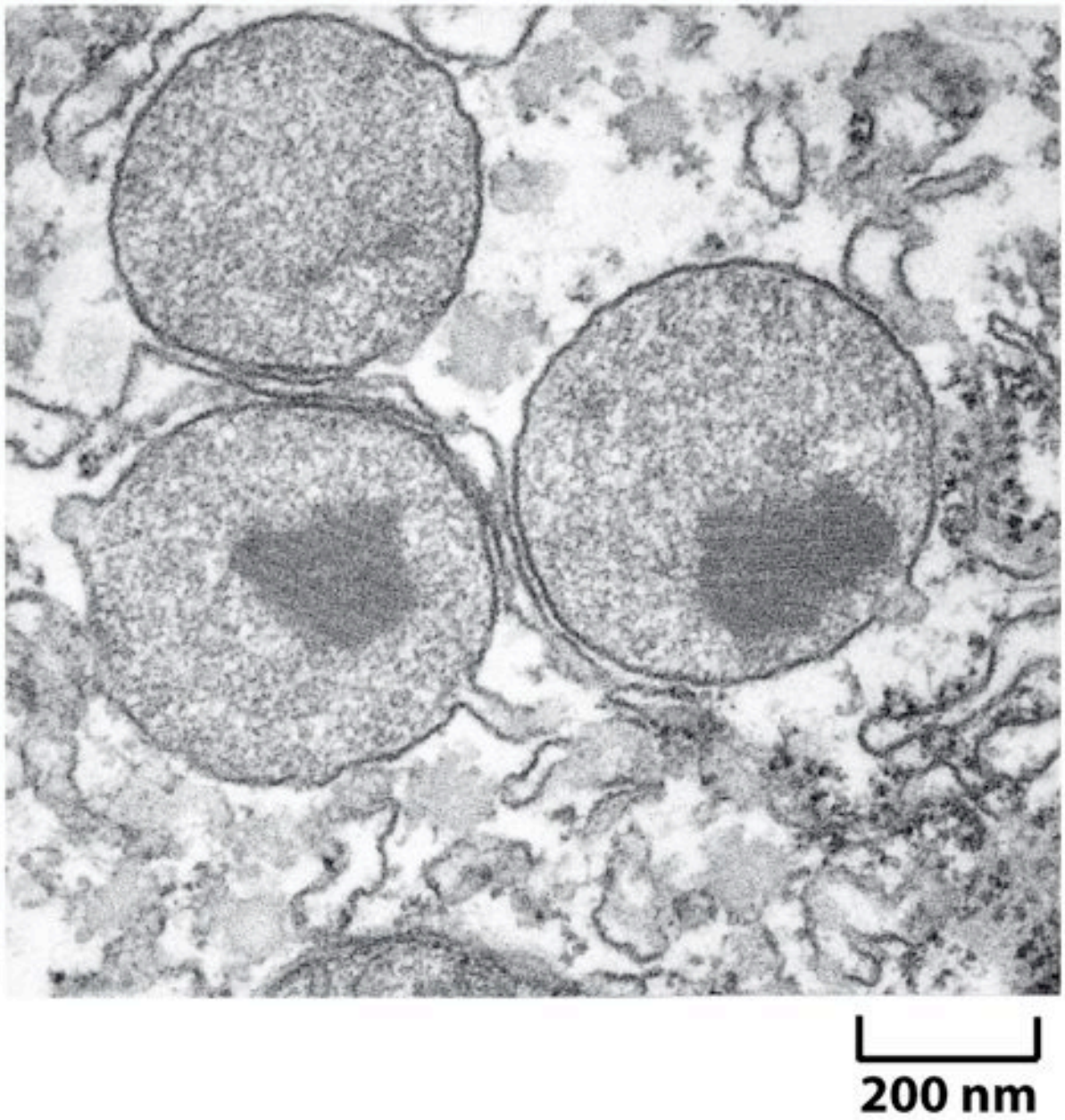


Figure 12-30 *Molecular Biology of the Cell* (© Garland Science 2008)

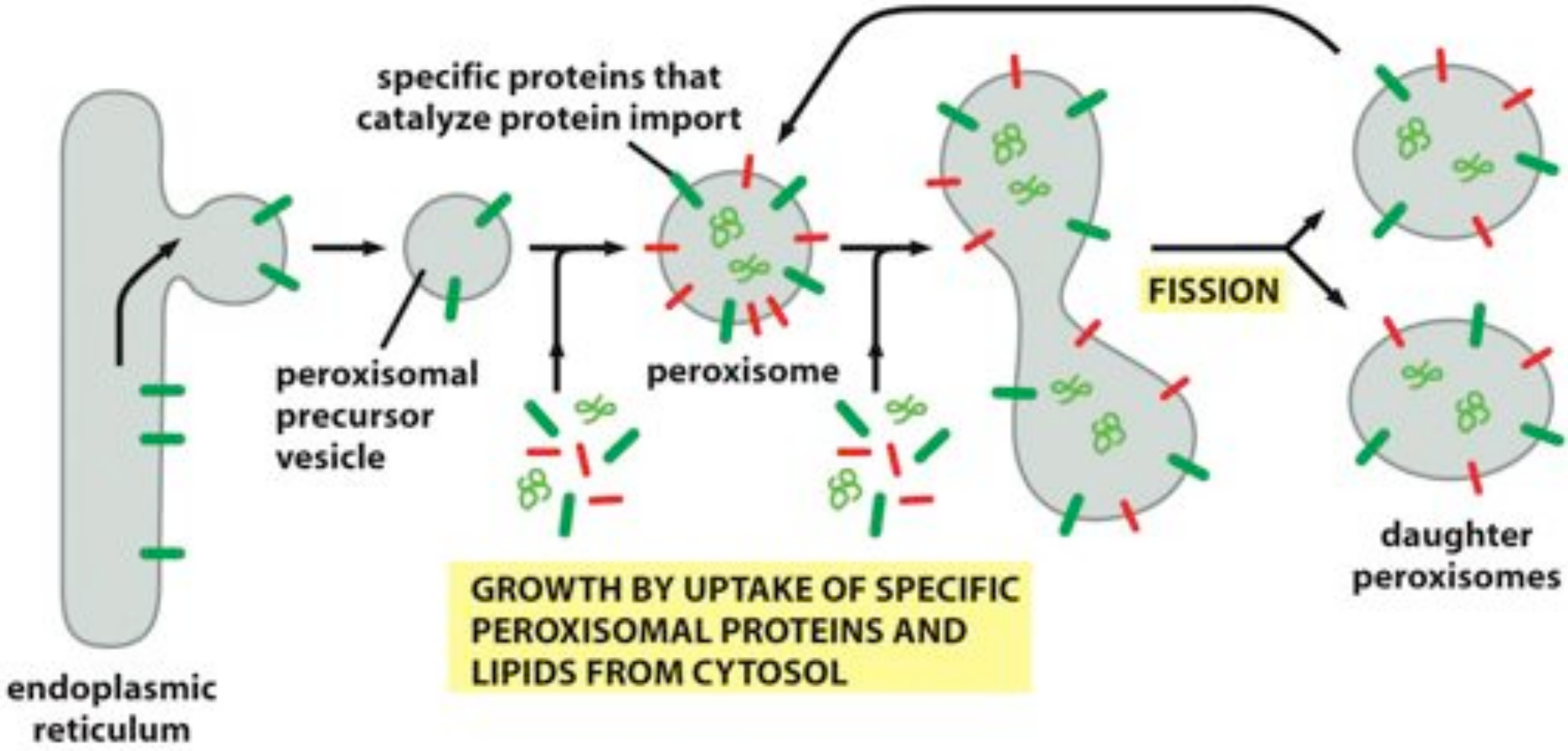
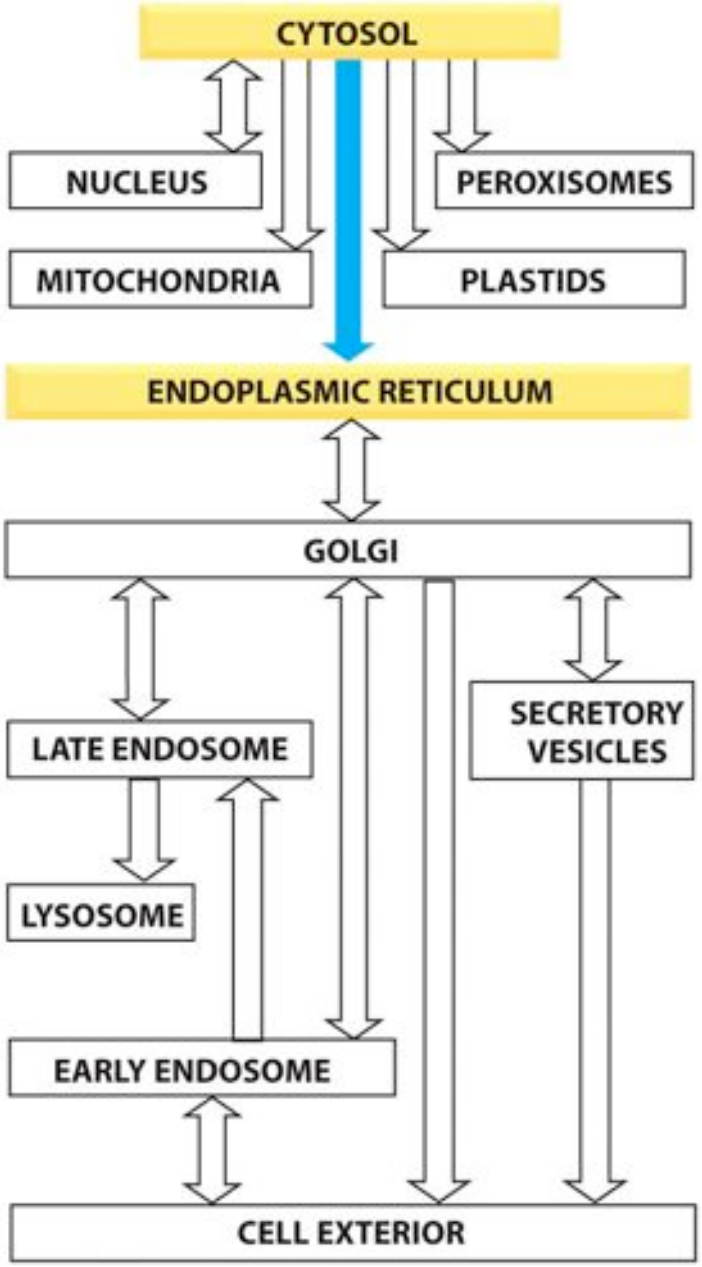


Figure 12-33 *Molecular Biology of the Cell* (© Garland Science 2008)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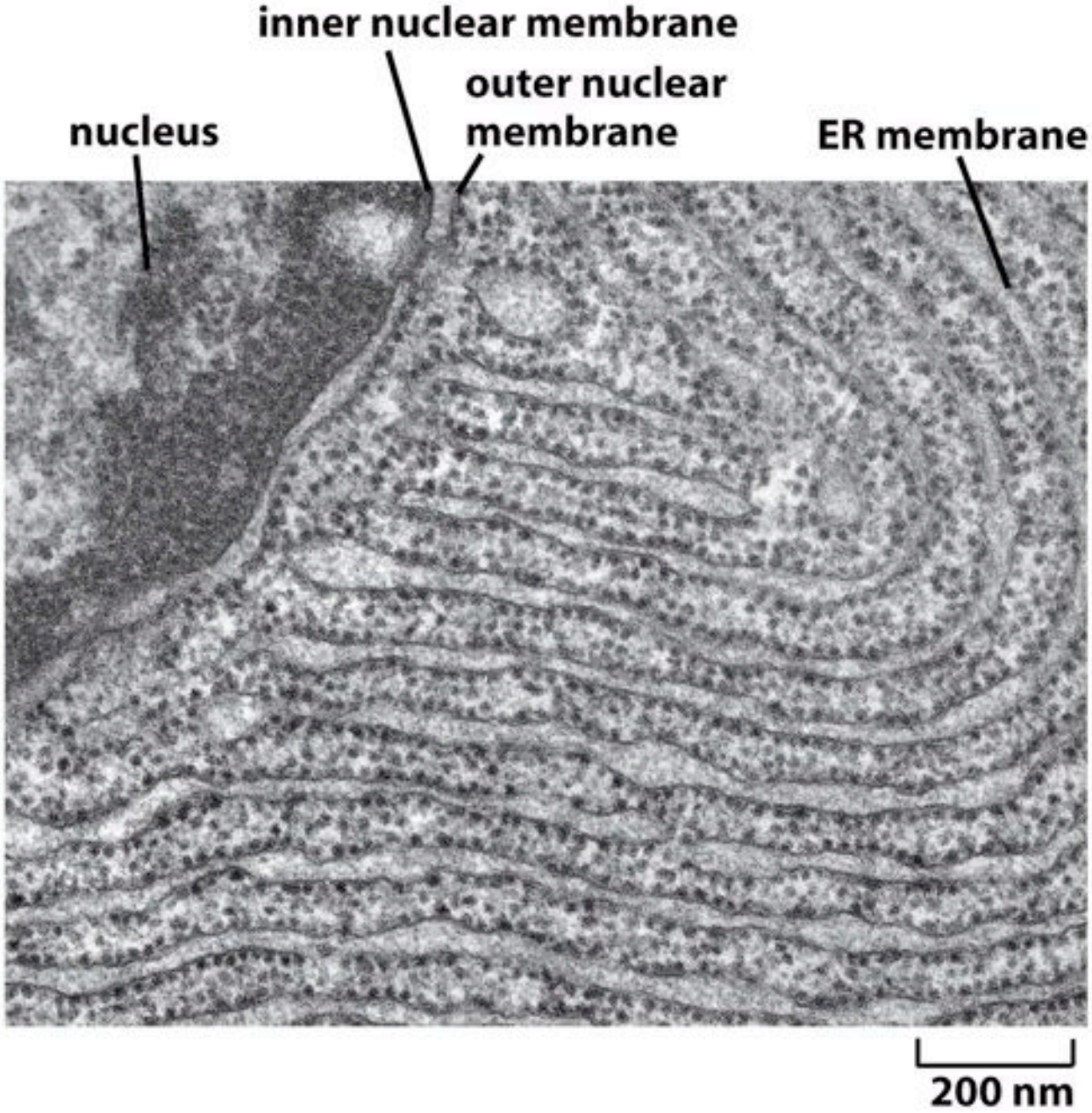


Figure 12-36a *Molecular Biology of the Cell* (© Garland Science 2008)

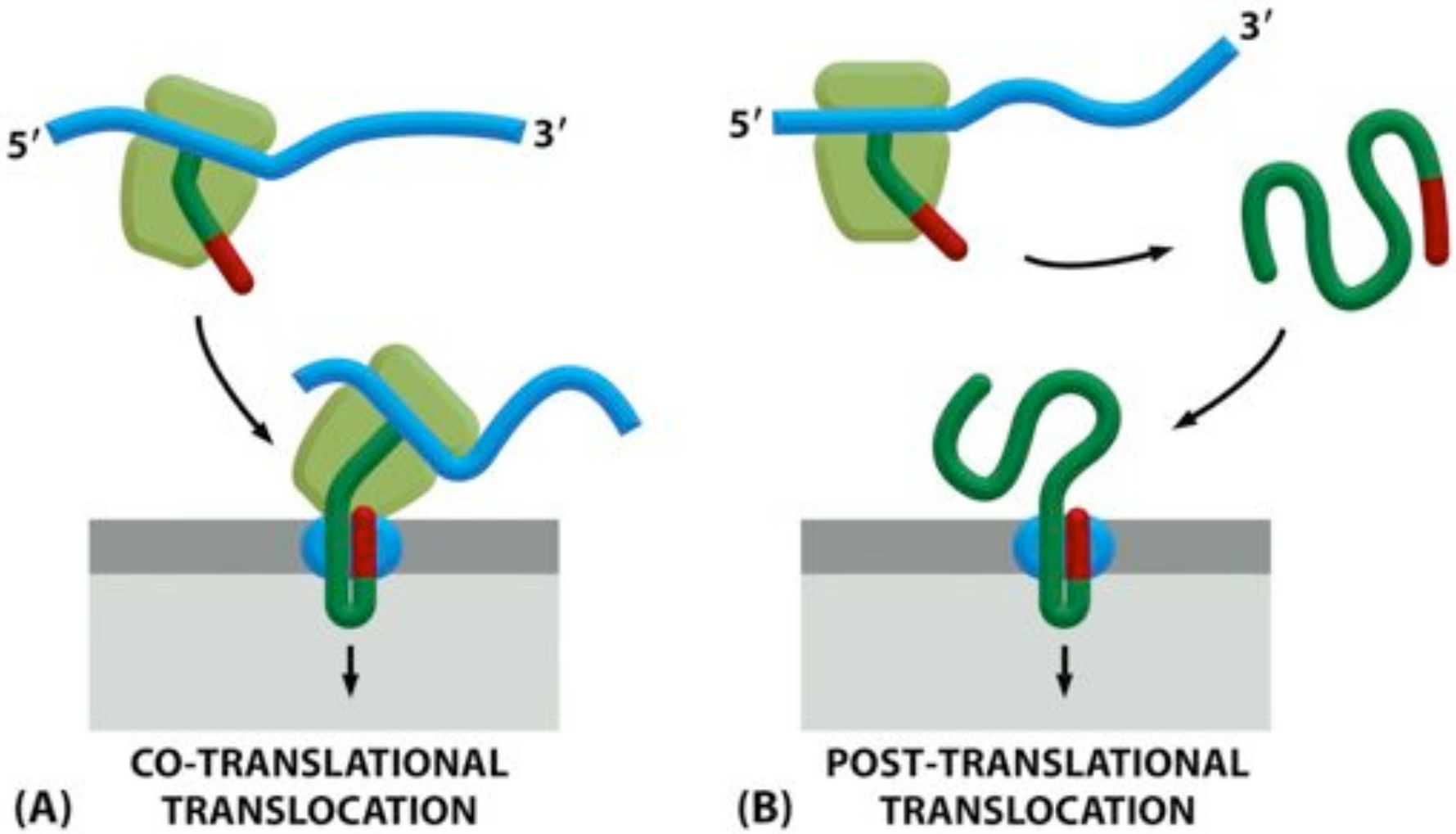


Figure 12-35 *Molecular Biology of the Cell* (© Garland Science 2008)

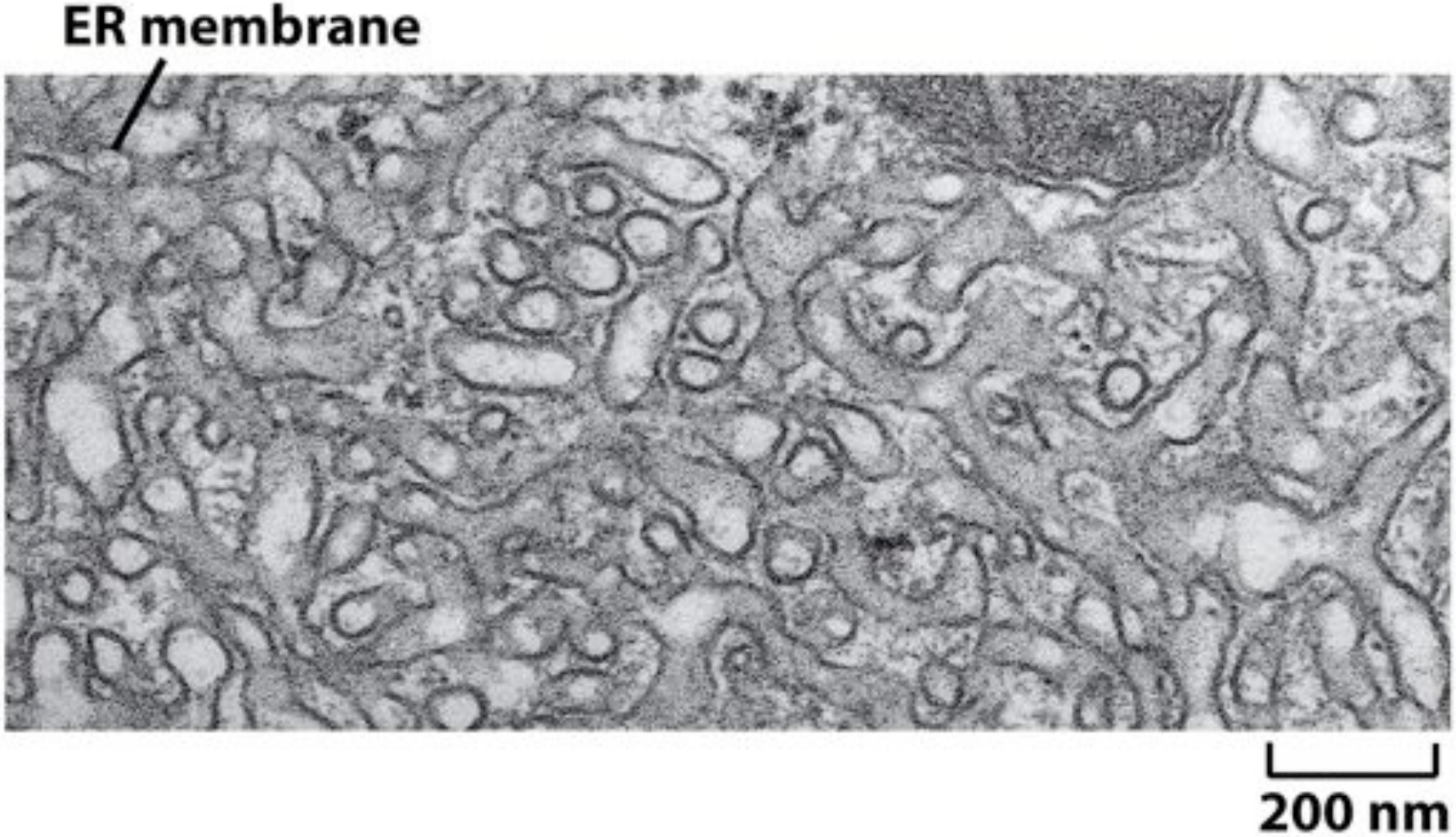


Figure 12-36b *Molecular Biology of the Cell* (© Garland Science 2008)

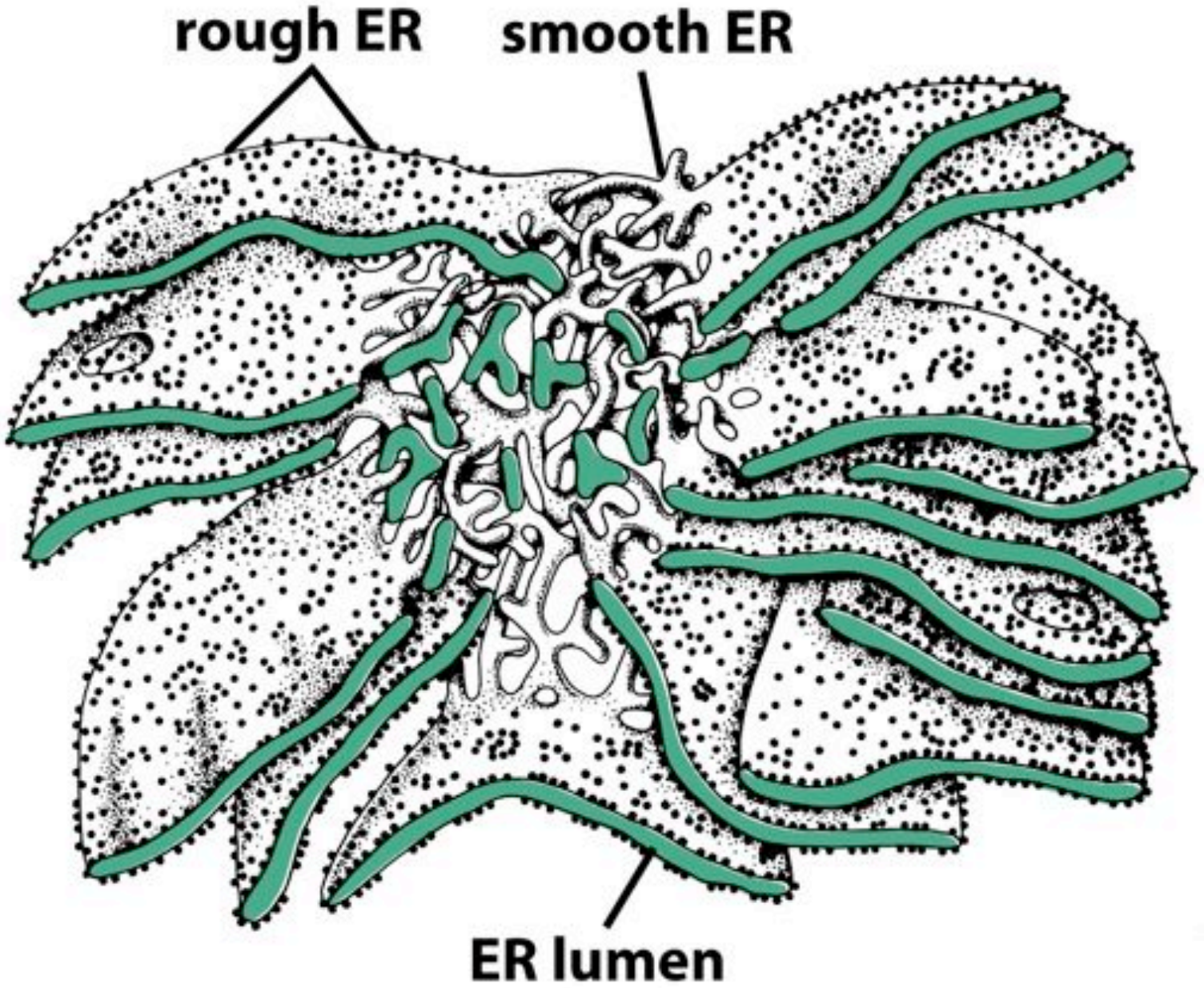


Figure 12-36c *Molecular Biology of the Cell* (© Garland Science 2008)

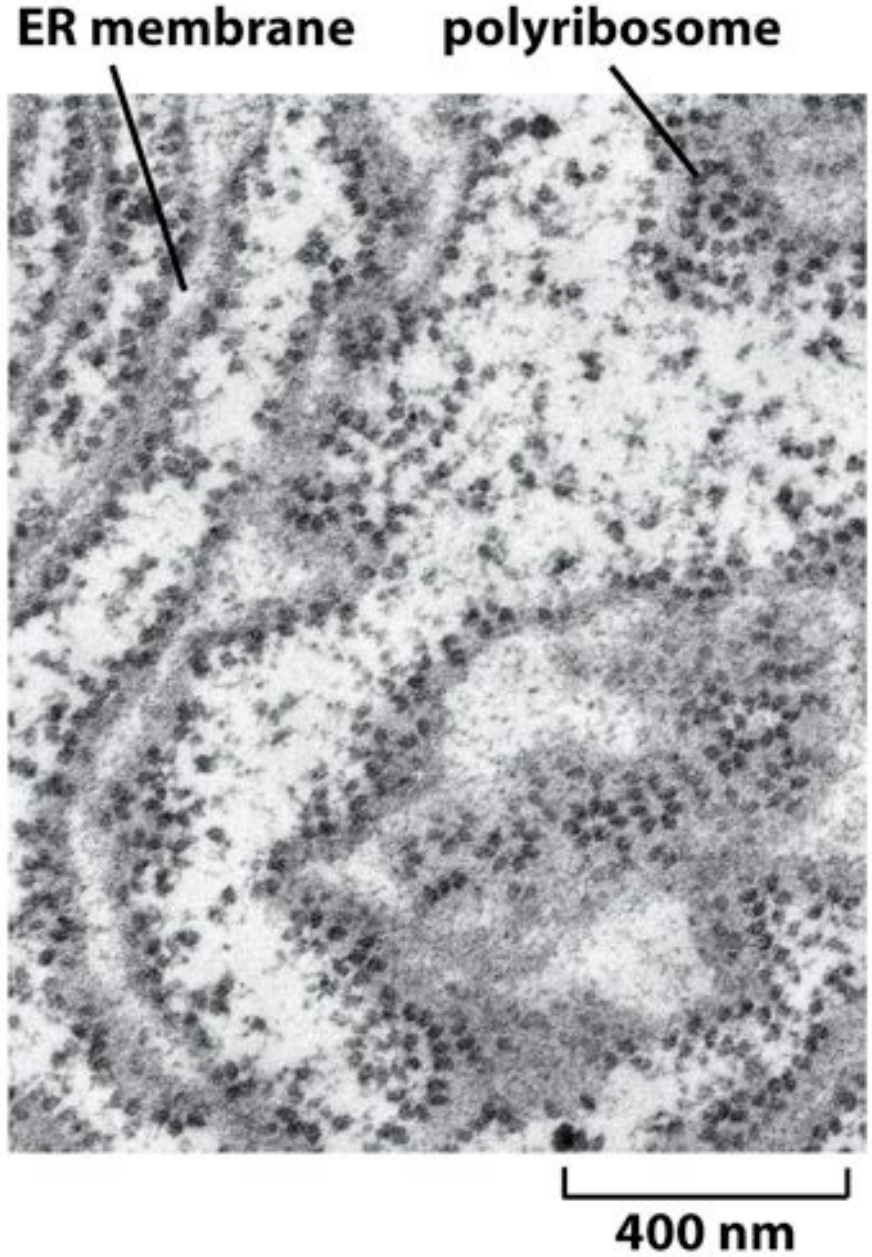


Figure 12-41b *Molecular Biology of the Cell* (© Garland Science 2008)

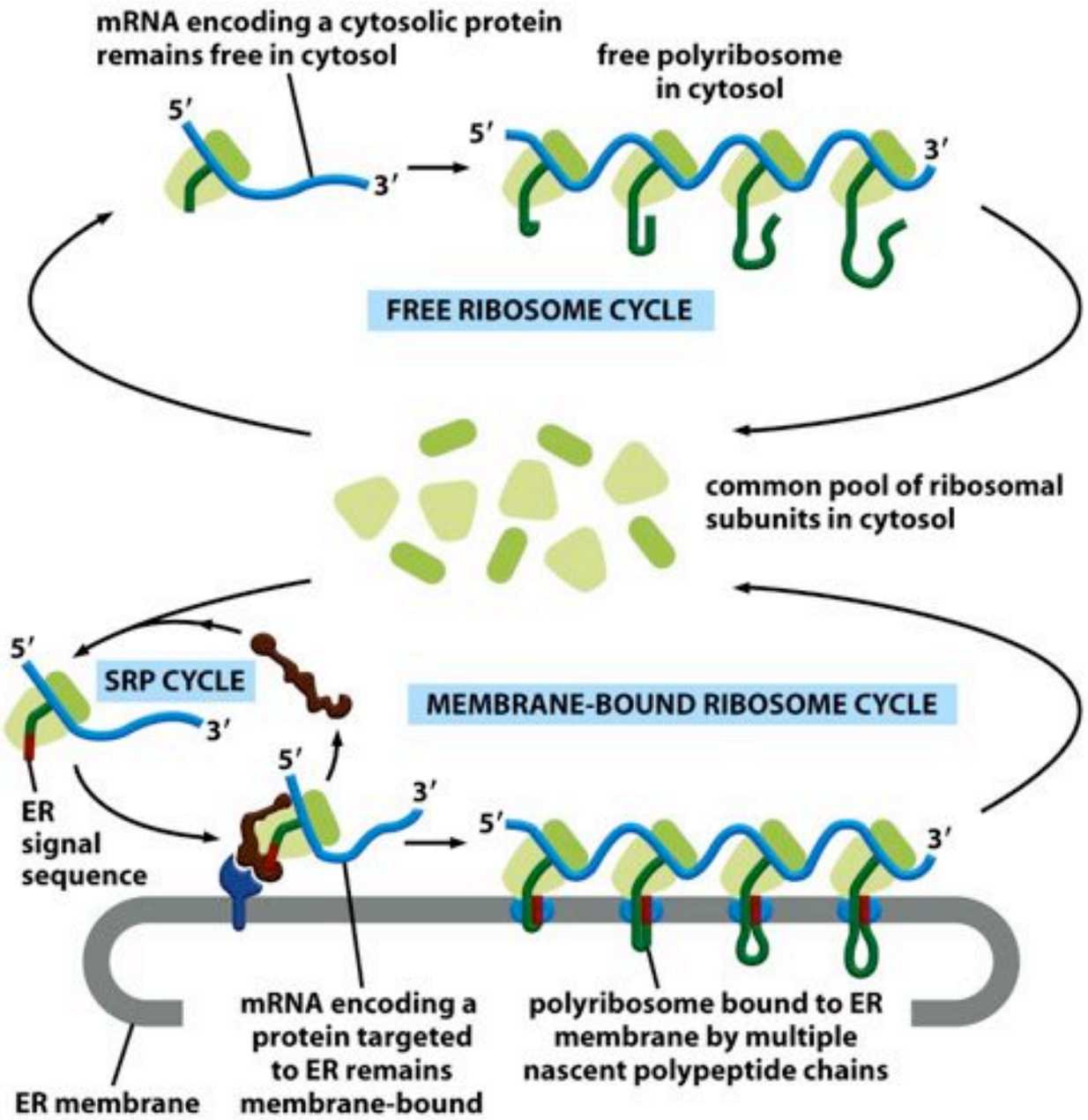


Figure 12-41a *Molecular Biology of the Cell* (© Garland Science 2008)

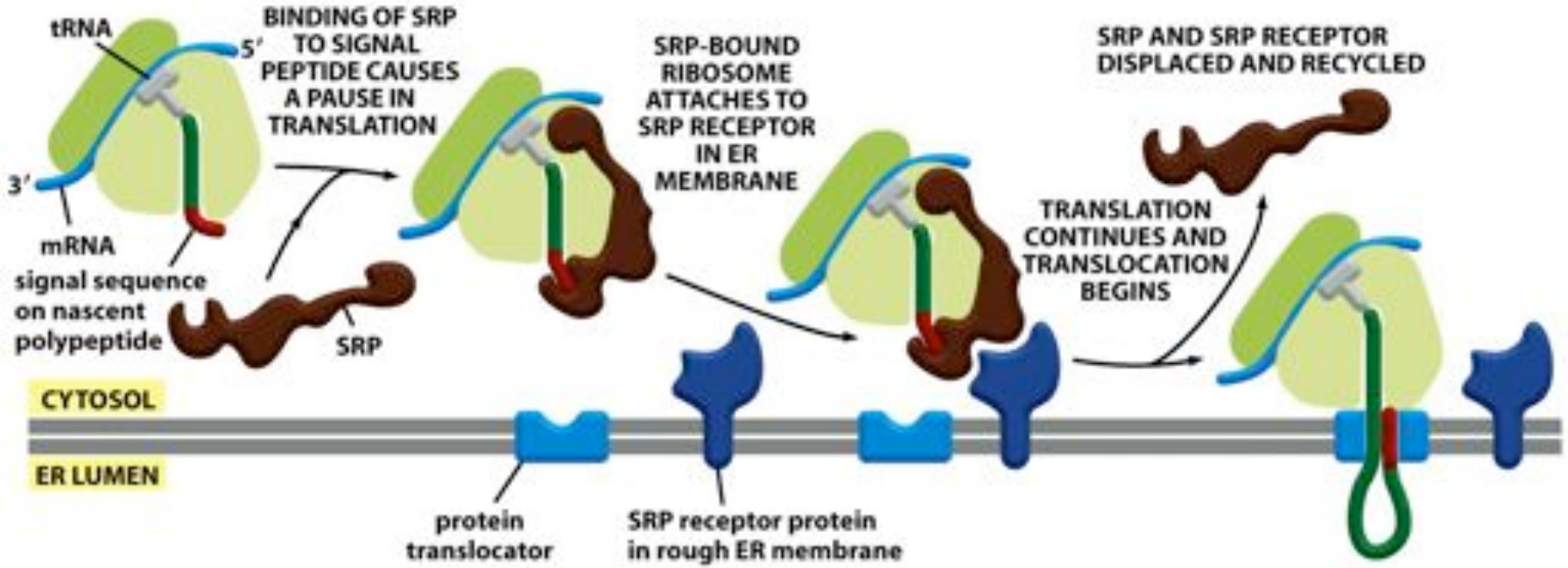


Figure 12-40 *Molecular Biology of the Cell* (© Garland Science 2008)

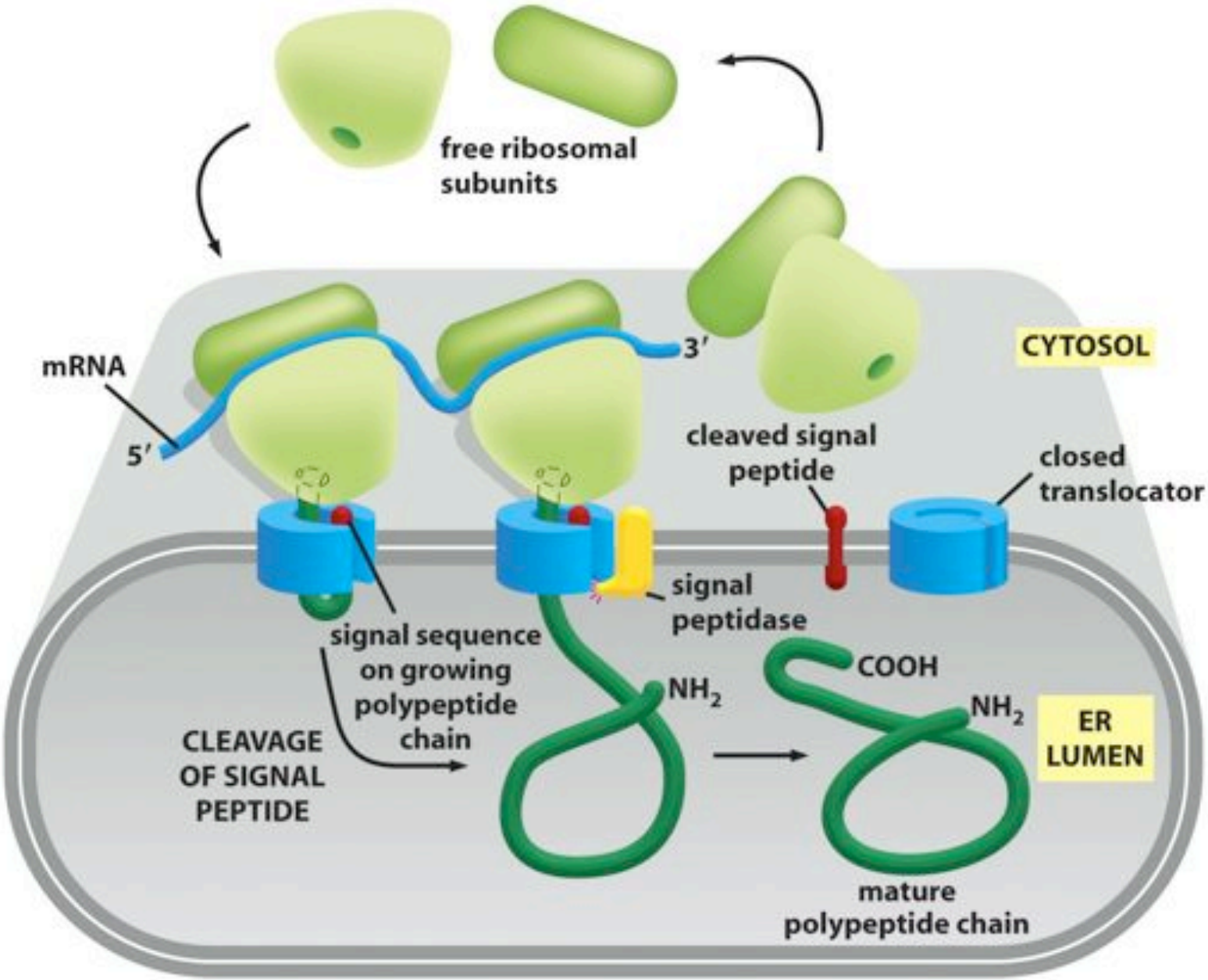


Figure 12-38 *Molecular Biology of the Cell* (© Garland Science 2008)

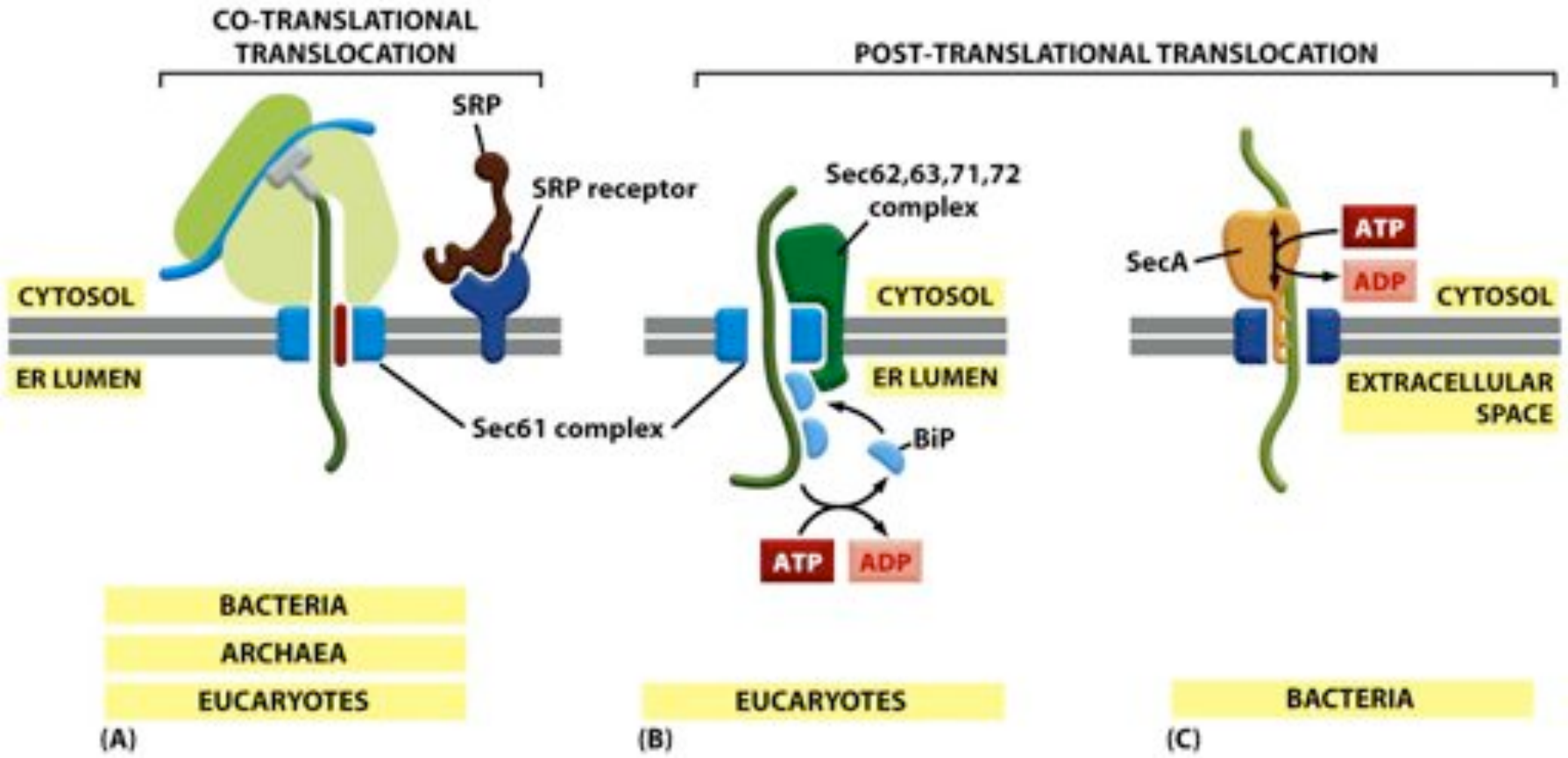


Figure 12-44 *Molecular Biology of the Cell* (© Garland Science 2008)

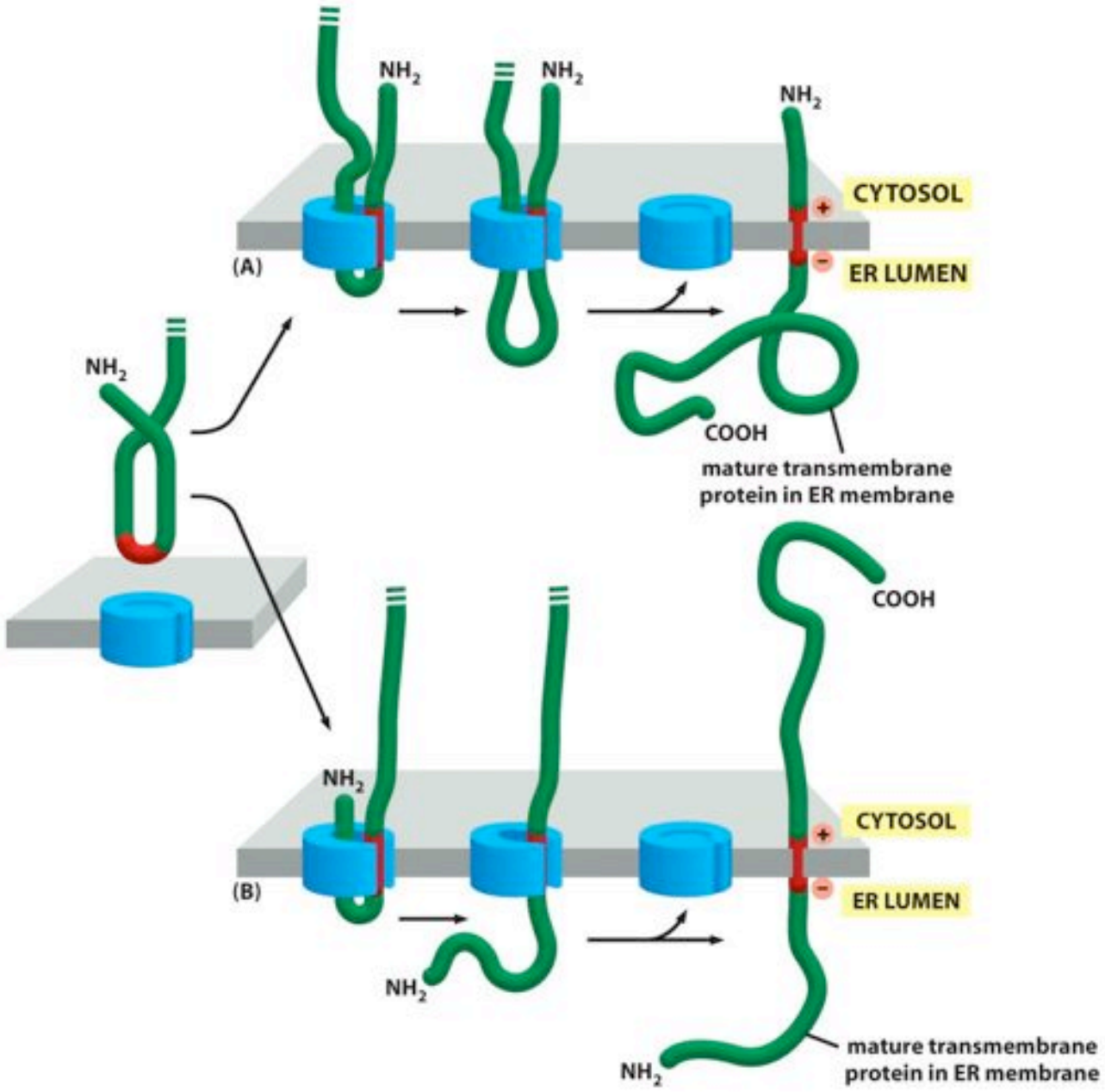


Figure 12-47 *Molecular Biology of the Cell* (© Garland Science 2008)

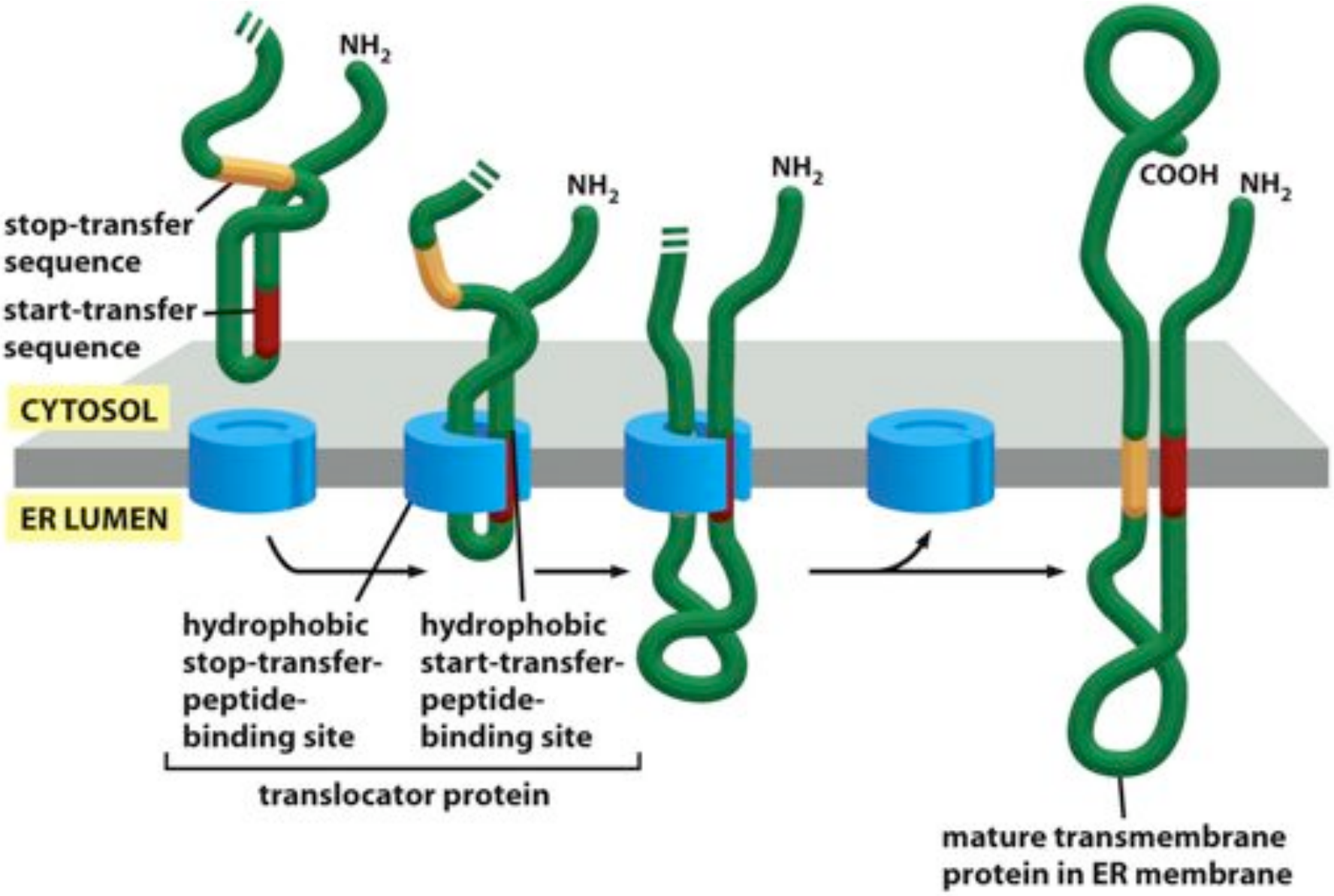


Figure 12-48 *Molecular Biology of the Cell* (© Garland Science 2008)

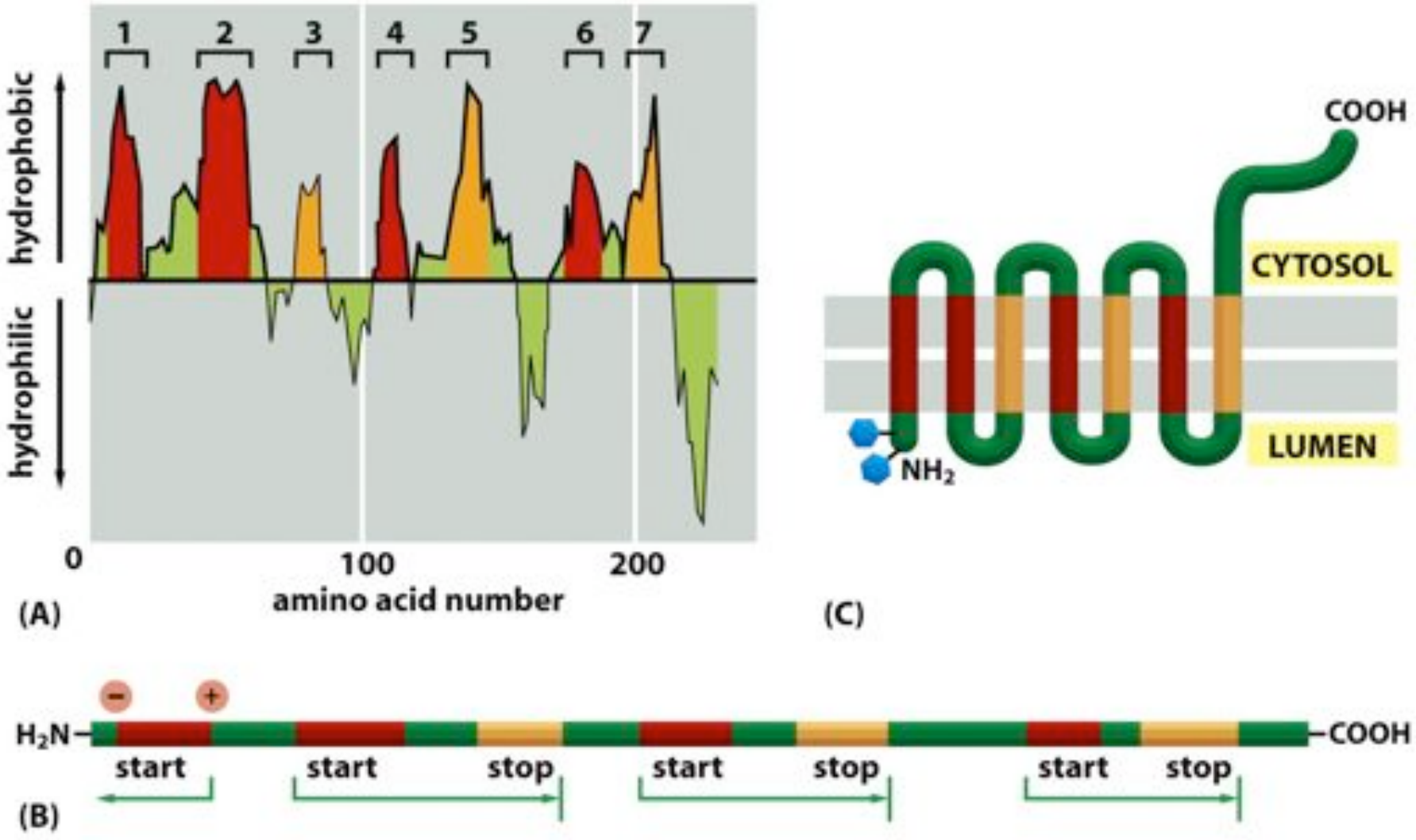


Figure 12-49 *Molecular Biology of the Cell* (© Garland Science 2008)

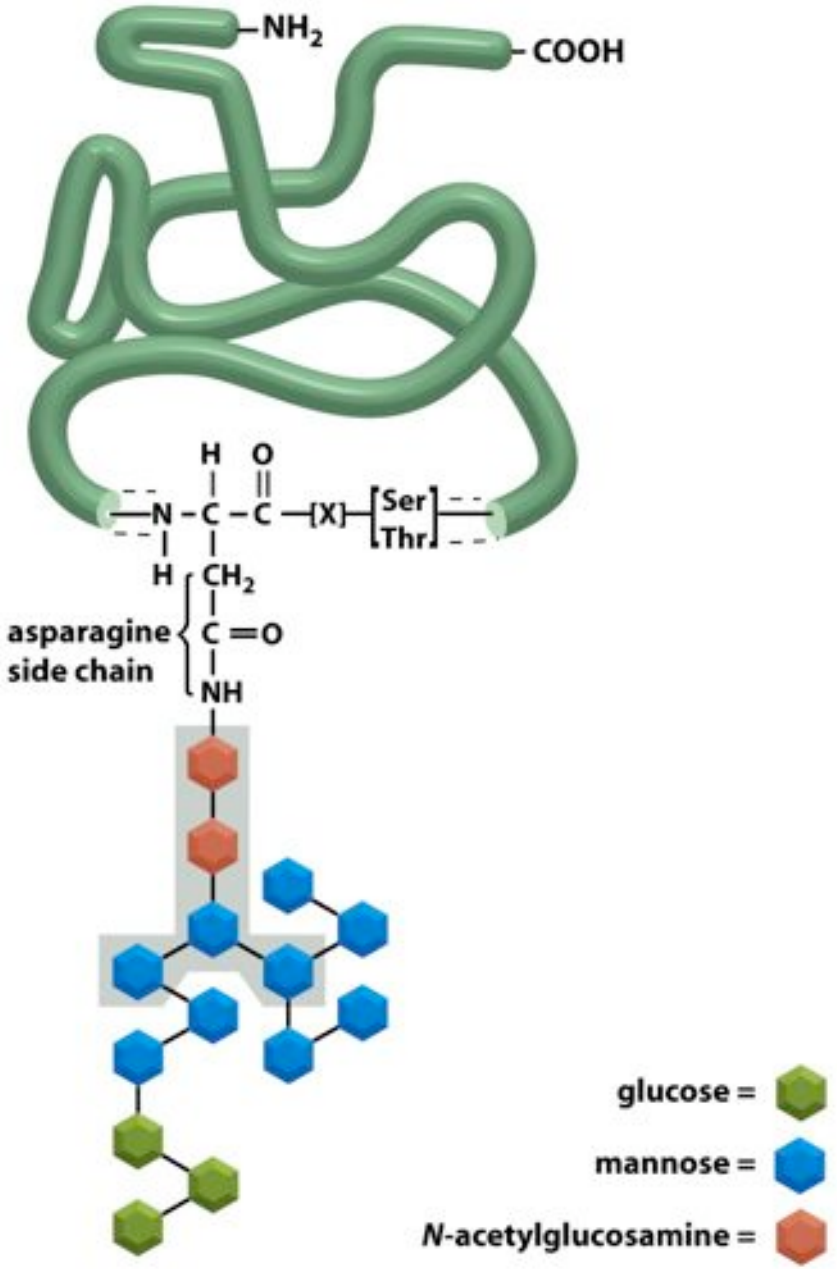


Figure 12-50 *Molecular Biology of the Cell* (© Garland Science 2008)

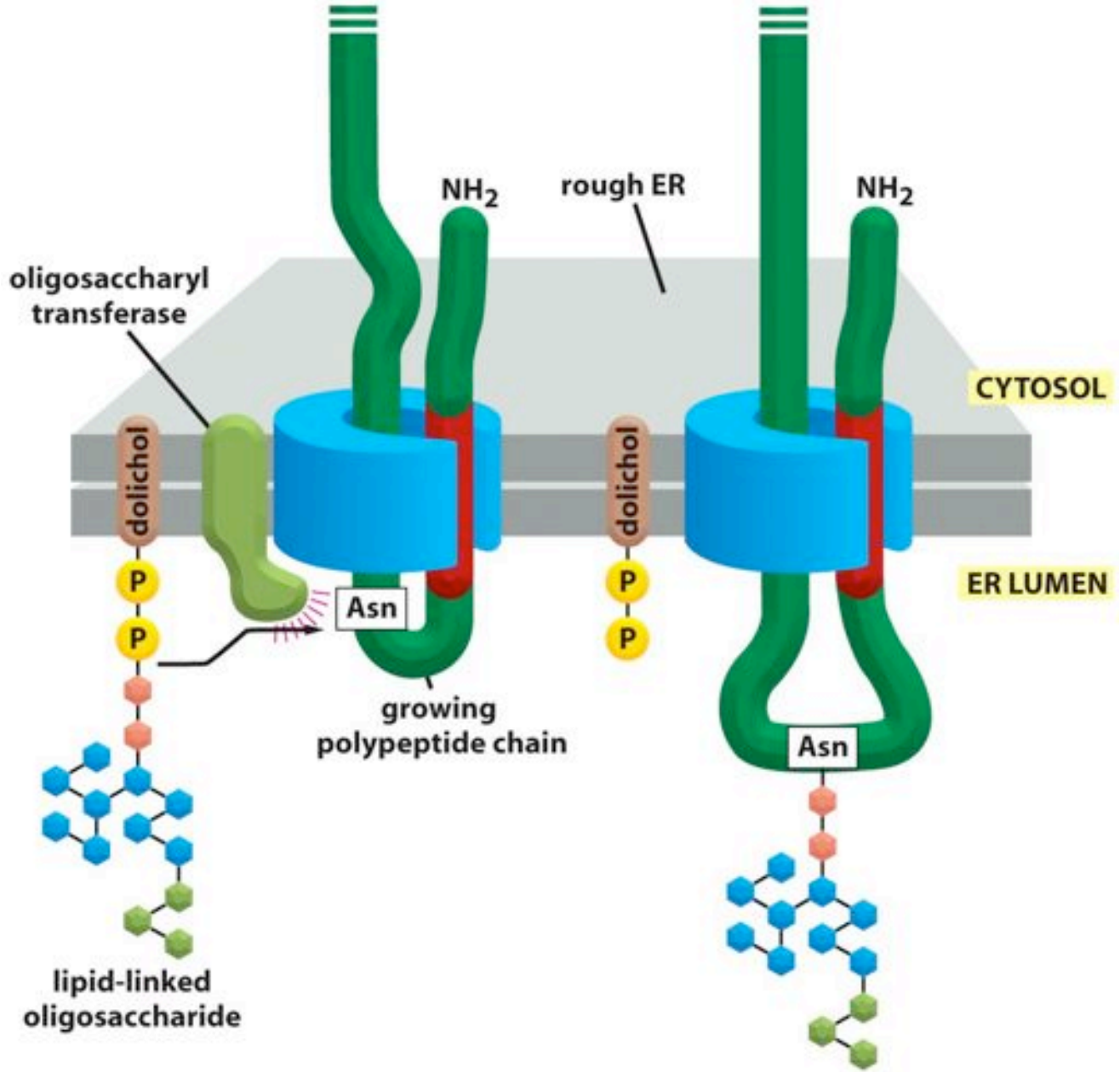


Figure 12-51 *Molecular Biology of the Cell* (© Garland Science 2008)

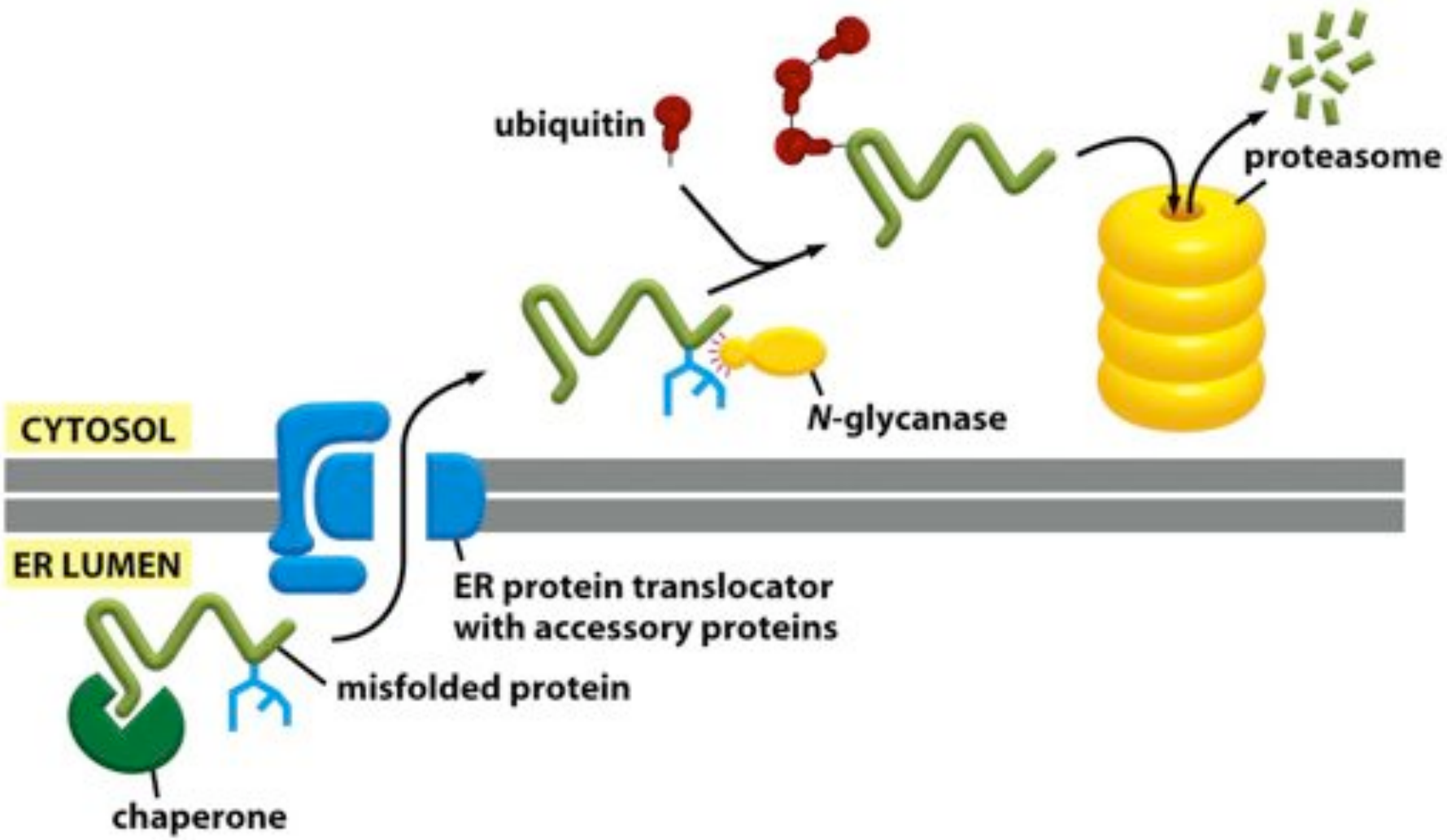


Figure 12-54 *Molecular Biology of the Cell* (© Garland Science 2008)

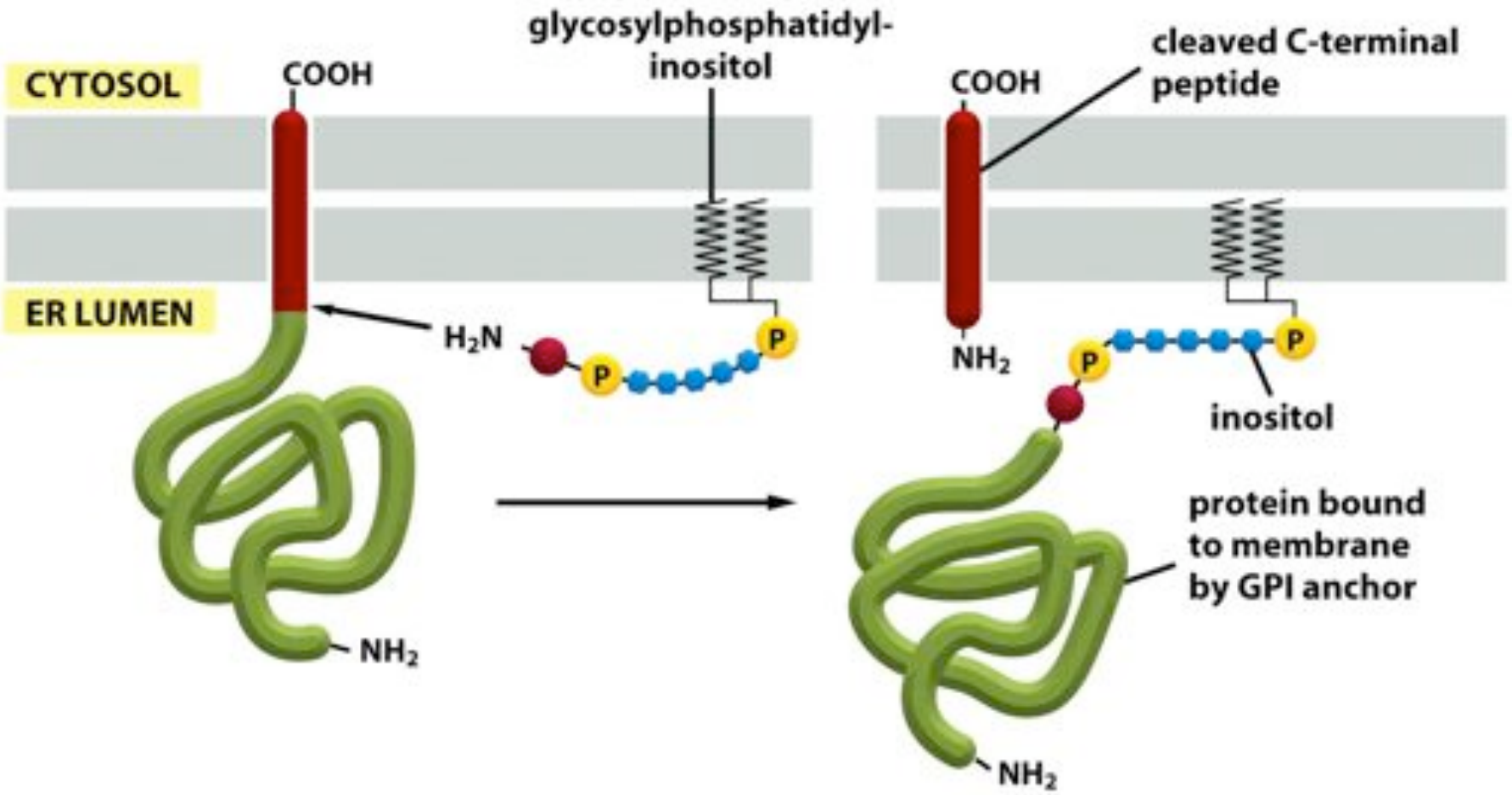


Figure 12-56 *Molecular Biology of the Cell* (© Garland Science 2008)

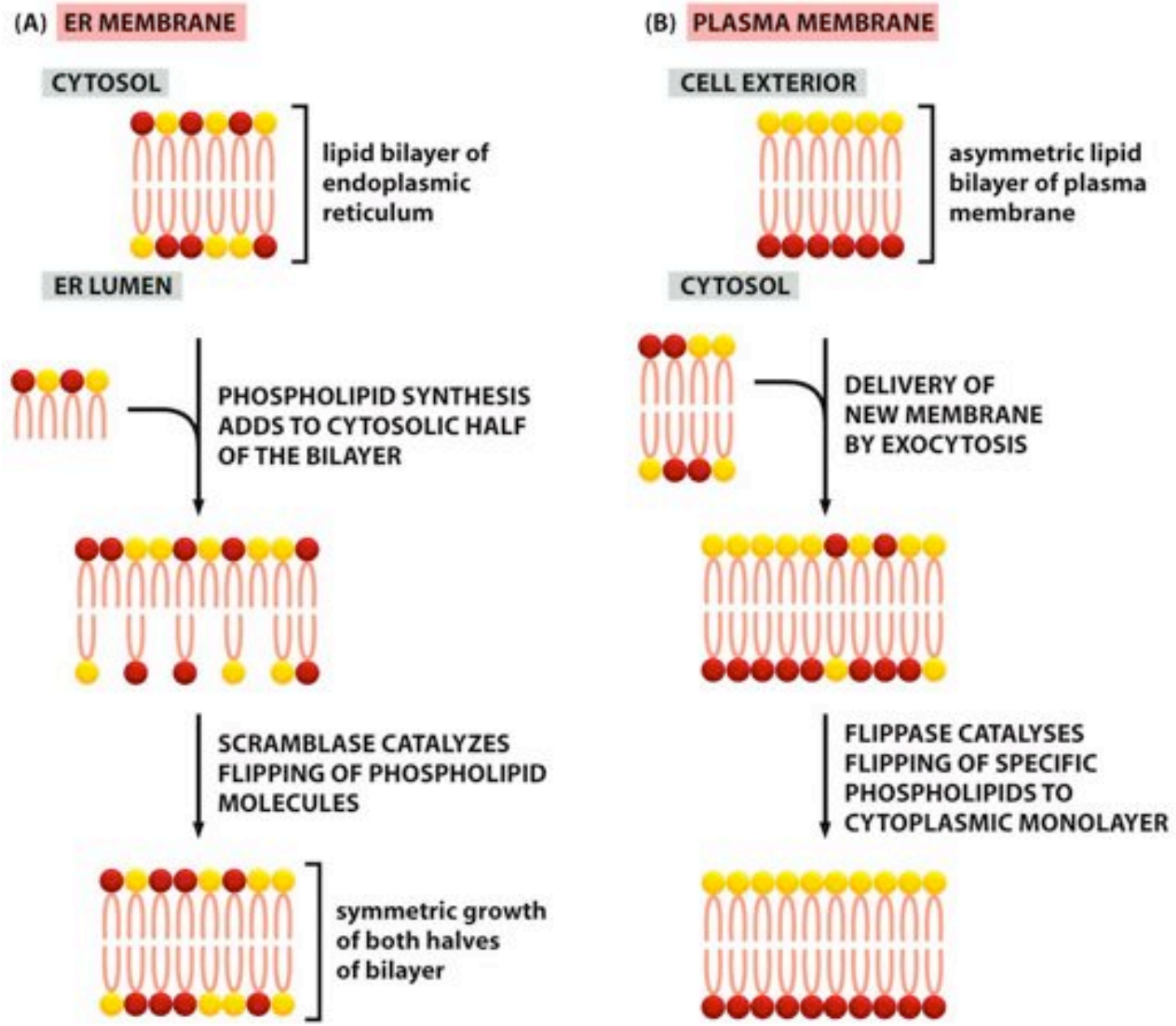


Figure 12-58 *Molecular Biology of the Cell* (© Garland Science 2008)

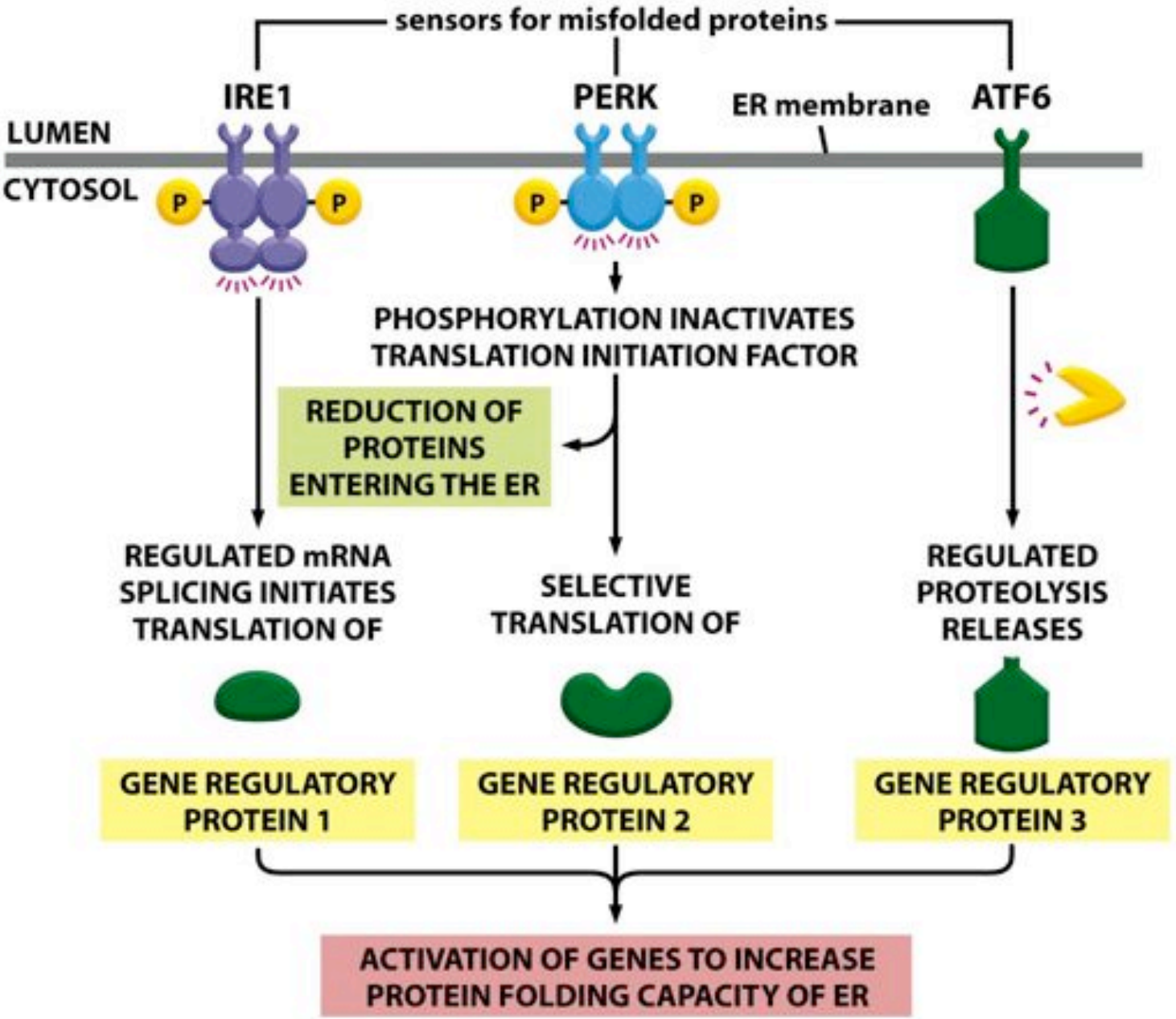


Figure 12-55a *Molecular Biology of the Cell* (© Garland Science 2008)

Sistema de Endomembranas y Tráfico Vesicular

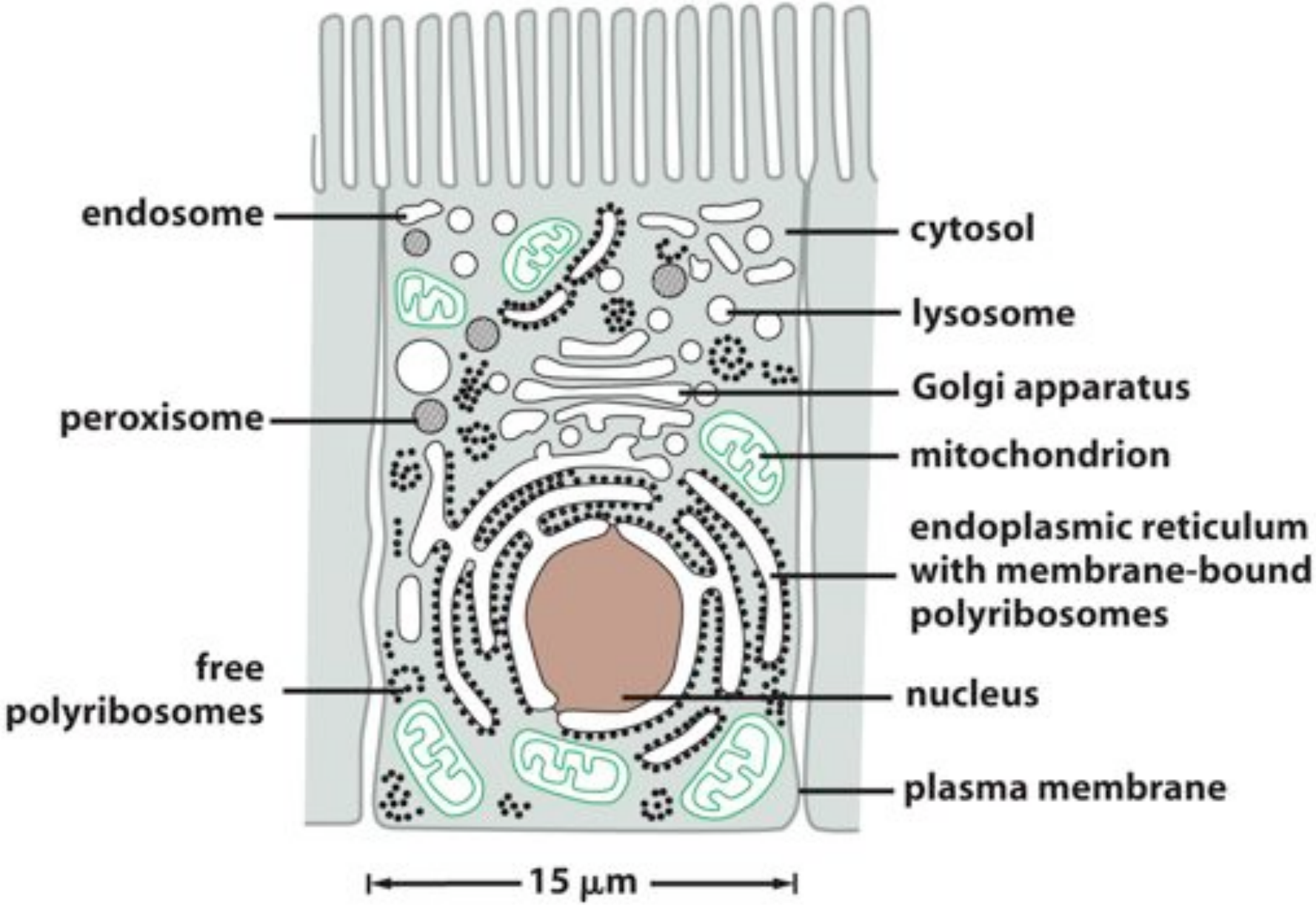


Figure 12-1 *Molecular Biology of the Cell* (© Garland Science 2008)

Table 12–1 Relative Volumes Occupied by the Major Intracellular Compartments in a Liver Cell (Hepatocyte)

INTRACELLULAR COMPARTMENT	PERCENTAGE OF TOTAL CELL VOLUME
Cytosol	54
Mitochondria	22
Rough ER cisternae	9
Smooth ER cisternae plus Golgi cisternae	6
Nucleus	6
Peroxisomes	1
Lysosomes	1
Endosomes	1

Table 12-1 *Molecular Biology of the Cell* (© Garland Science 2008)

Table 12–2 Relative Amounts of Membrane Types in Two Kinds of Eucaryotic Cells

MEMBRANE TYPE	PERCENTAGE OF TOTAL CELL MEMBRANE	
	LIVER HEPATOCYTE*	PANCREATIC EXOCRINE CELL*
Plasma membrane	2	5
Rough ER membrane	35	60
Smooth ER membrane	16	<1
Golgi apparatus membrane	7	10
Mitochondria		
Outer membrane	7	4
Inner membrane	32	17
Nucleus		
Inner membrane	0.2	0.7
Secretory vesicle membrane	not determined	3
Lysosome membrane	0.4	not determined
Peroxisome membrane	0.4	not determined
Endosome membrane	0.4	not determined

*These two cells are of very different sizes: the average hepatocyte has a volume of about 5000 μm^3 compared with 1000 μm^3 for the pancreatic exocrine cell. Total cell membrane areas are estimated at about 110,000 μm^2 and 13,000 μm^2, respectively.

Table 12-2 *Molecular Biology of the Cell* (© Garland Science 2008)

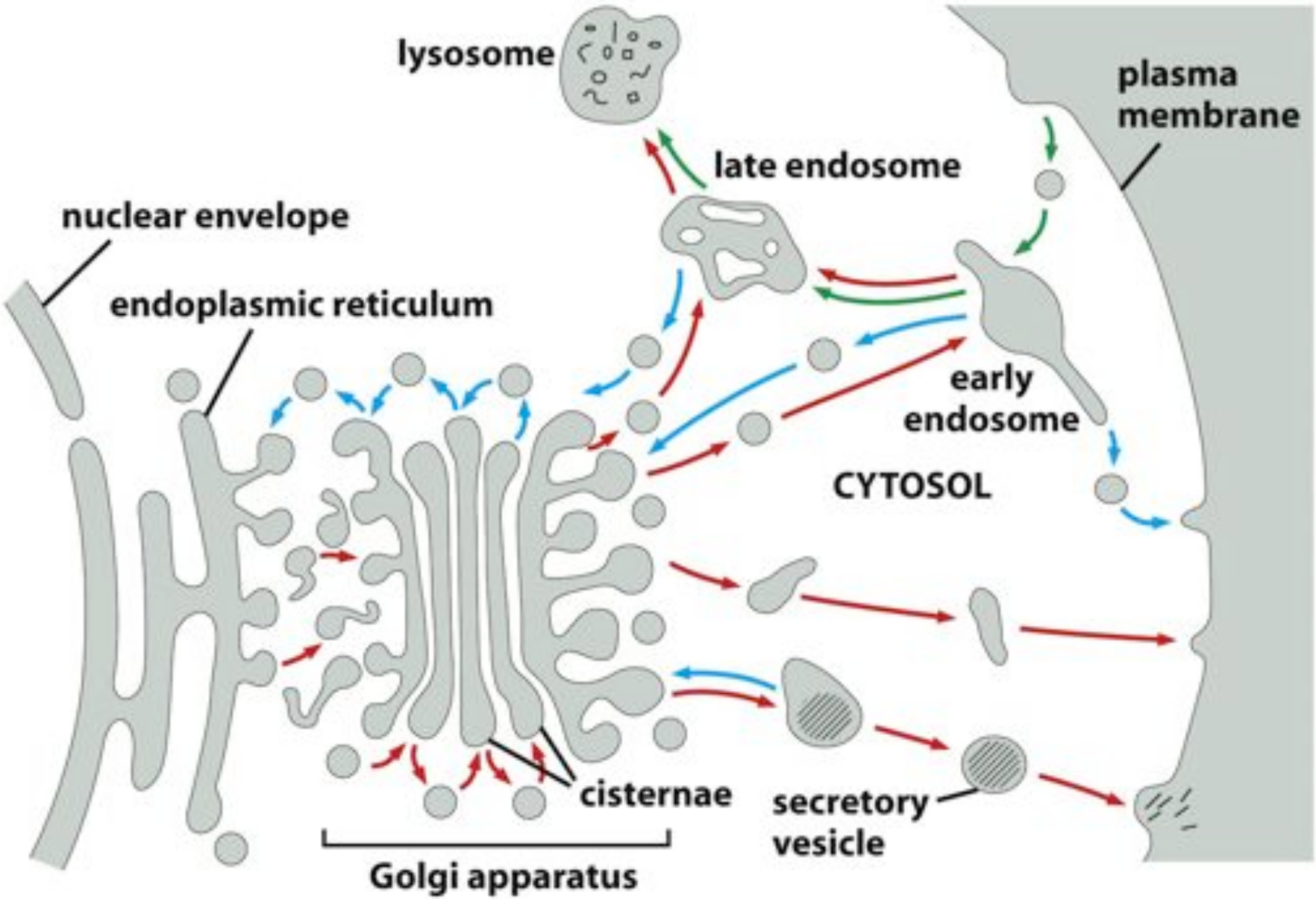


Figure 13-3b *Molecular Biology of the Cell* (© Garland Science 2008)

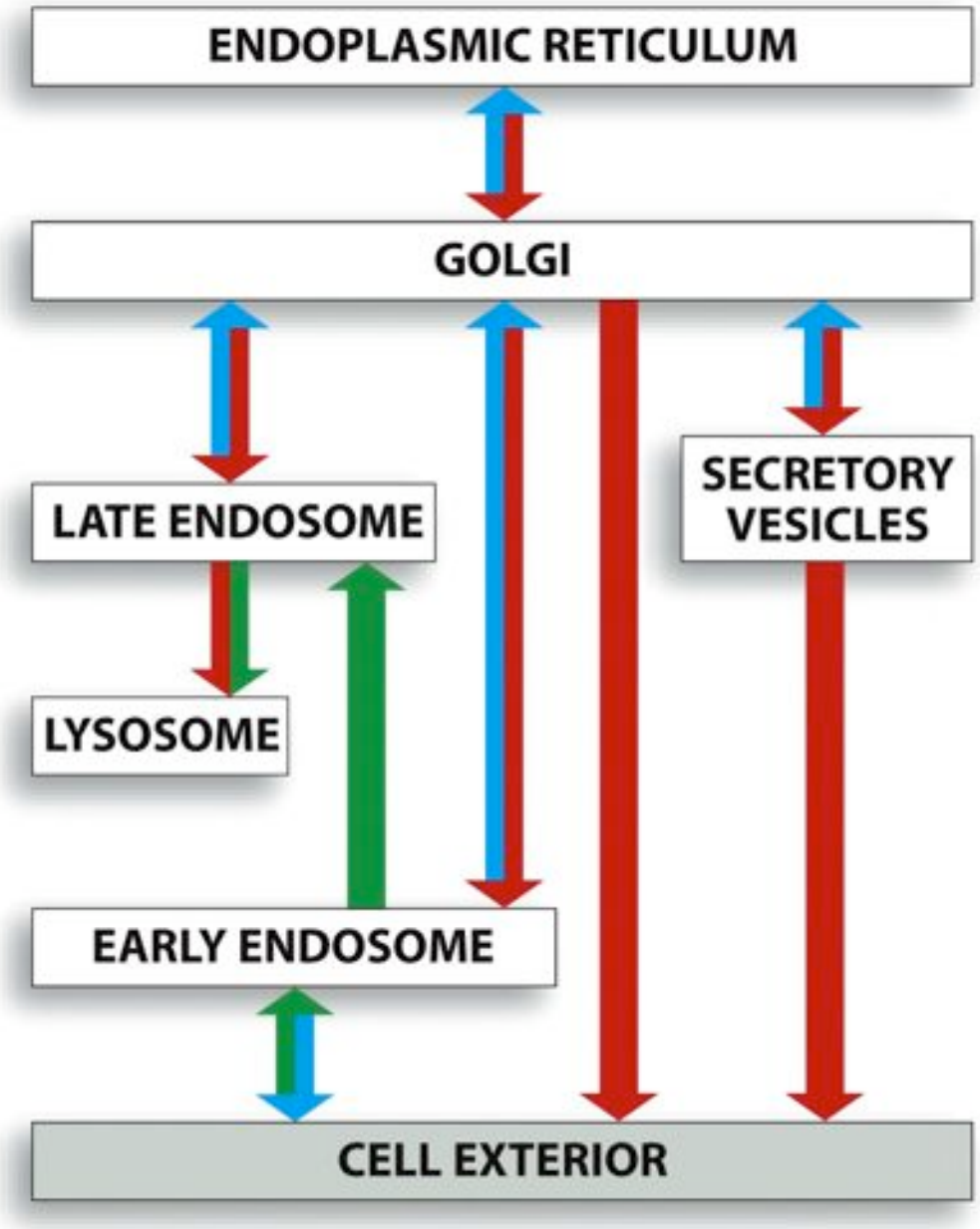


Figure 13-3a *Molecular Biology of the Cell* (© Garland Science 2008)

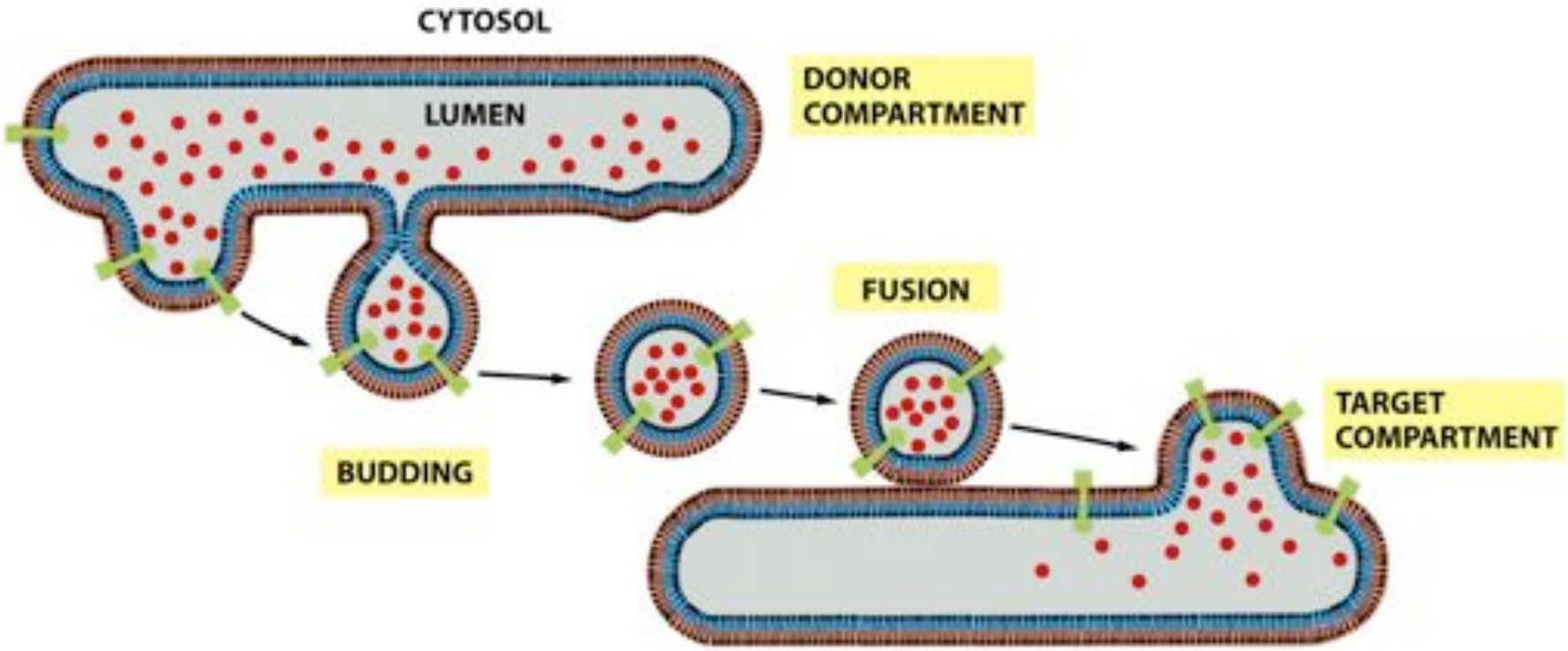


Figure 13-2 *Molecular Biology of the Cell* (© Garland Science 2008)

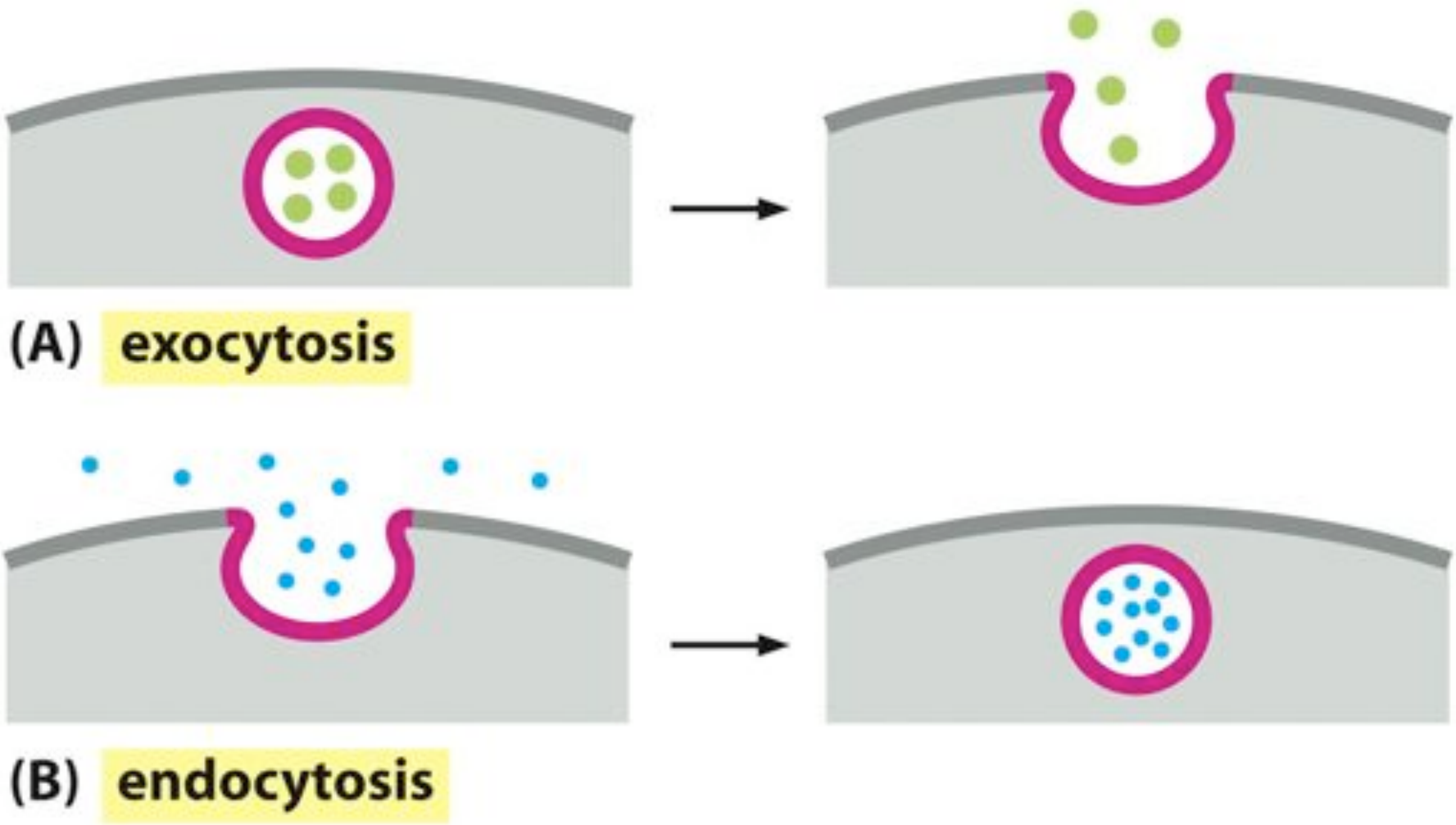


Figure 13-1 *Molecular Biology of the Cell* (© Garland Science 2008)

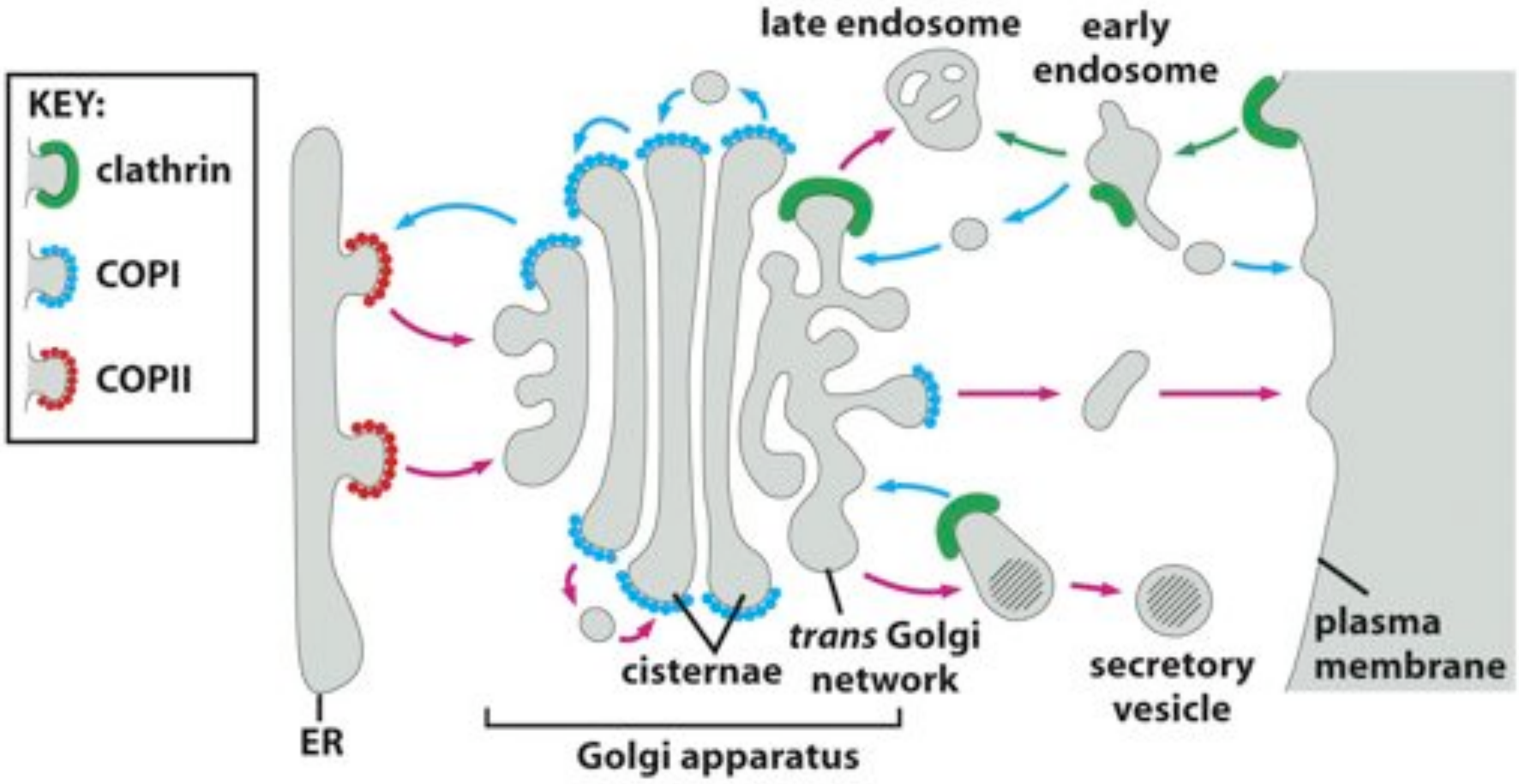


Figure 13-5 *Molecular Biology of the Cell* (© Garland Science 2008)

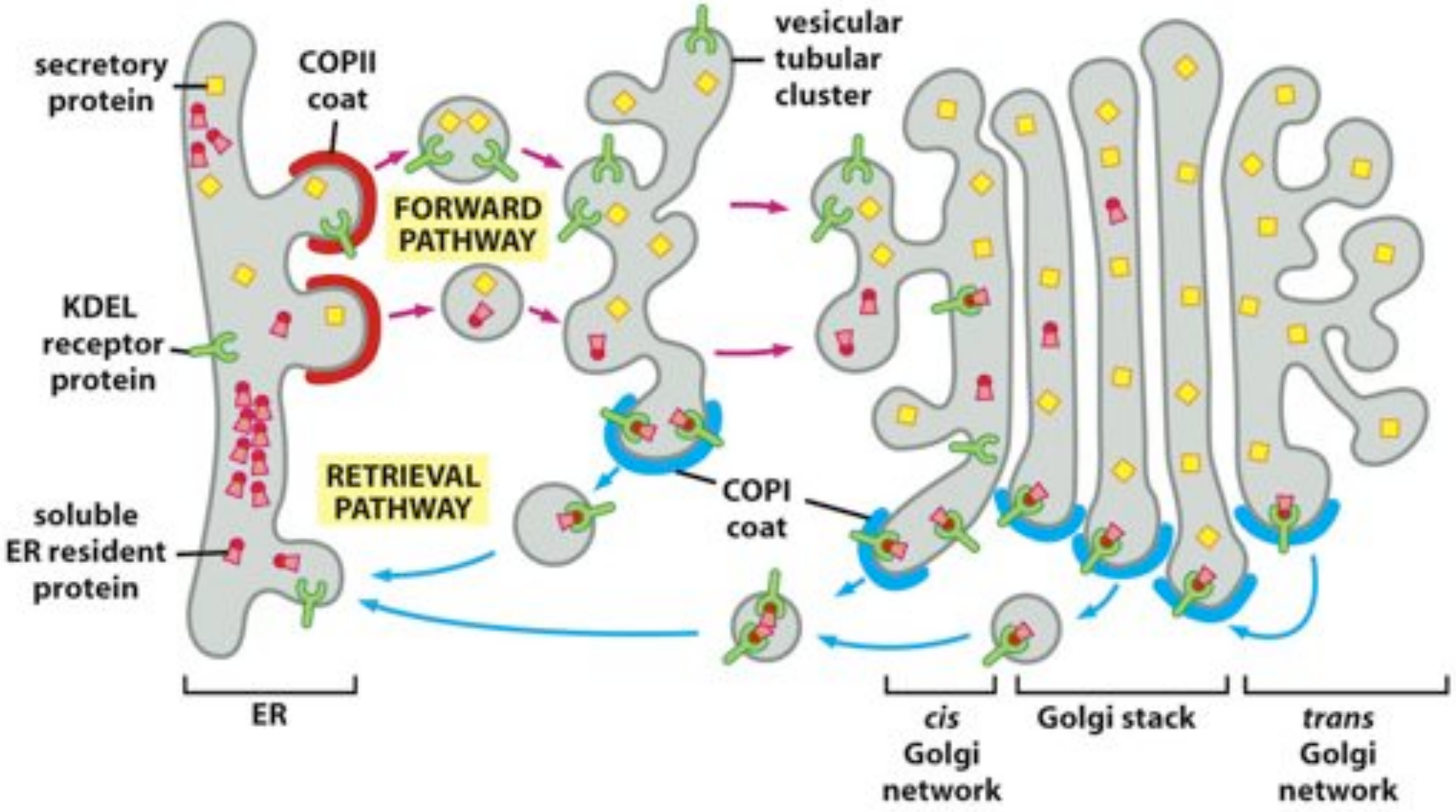


Figure 13-24b *Molecular Biology of the Cell* (© Garland Science 2008)

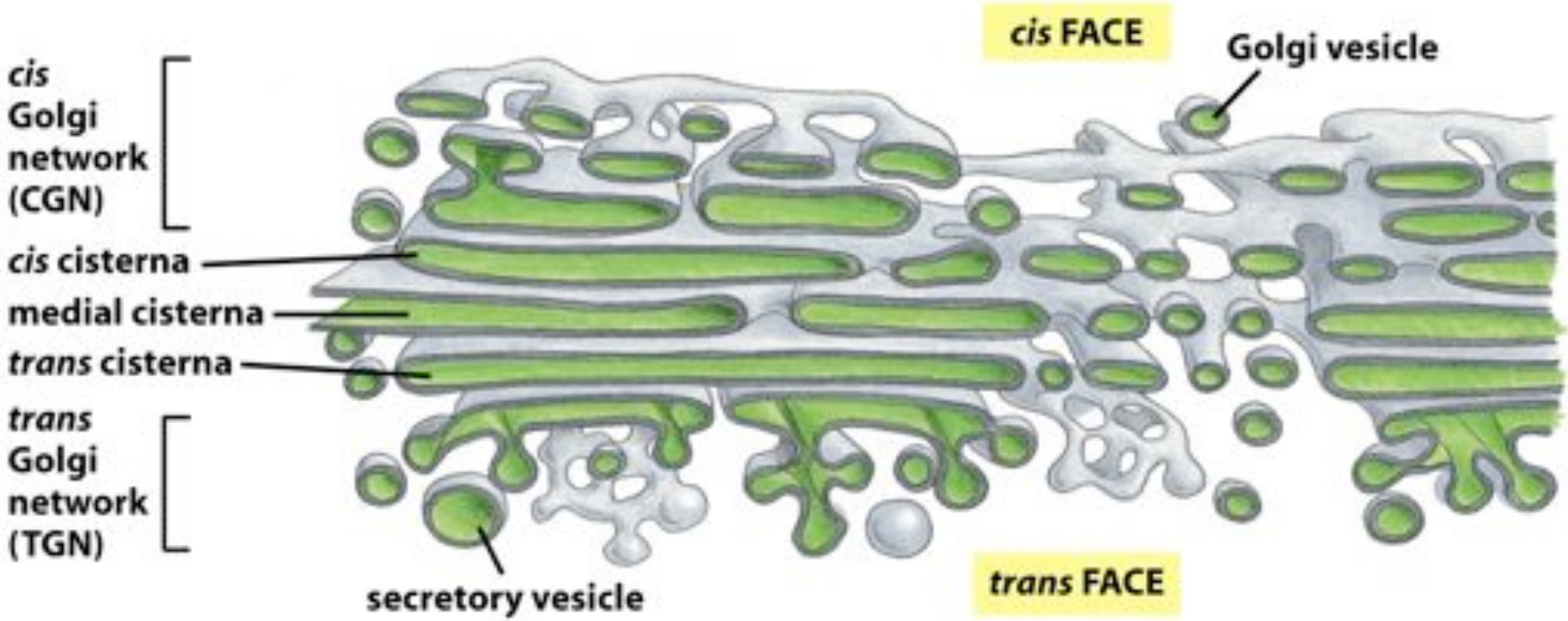


Figure 13-25a *Molecular Biology of the Cell* (© Garland Science 2008)

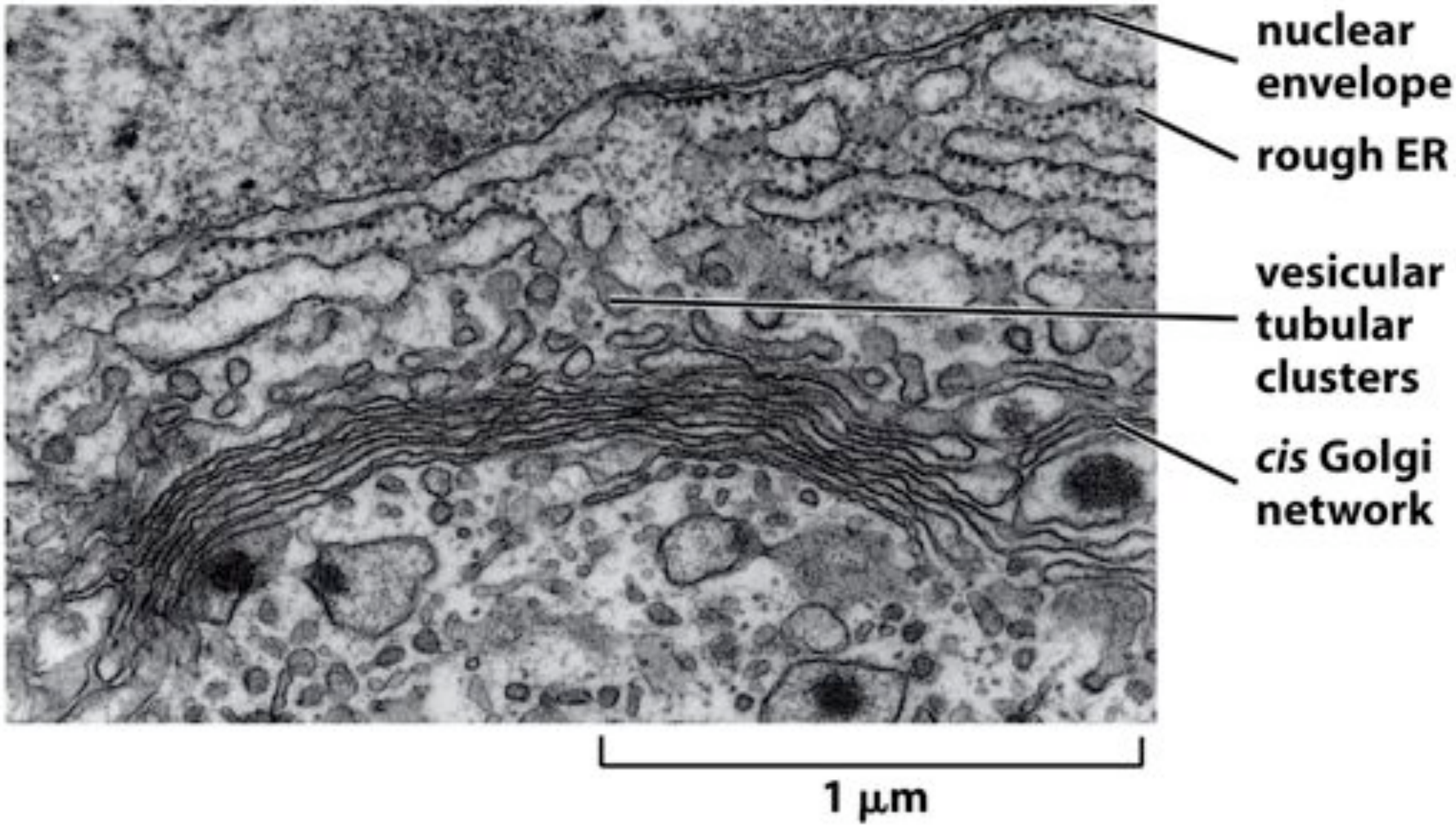


Figure 13-25b *Molecular Biology of the Cell* (© Garland Science 2008)

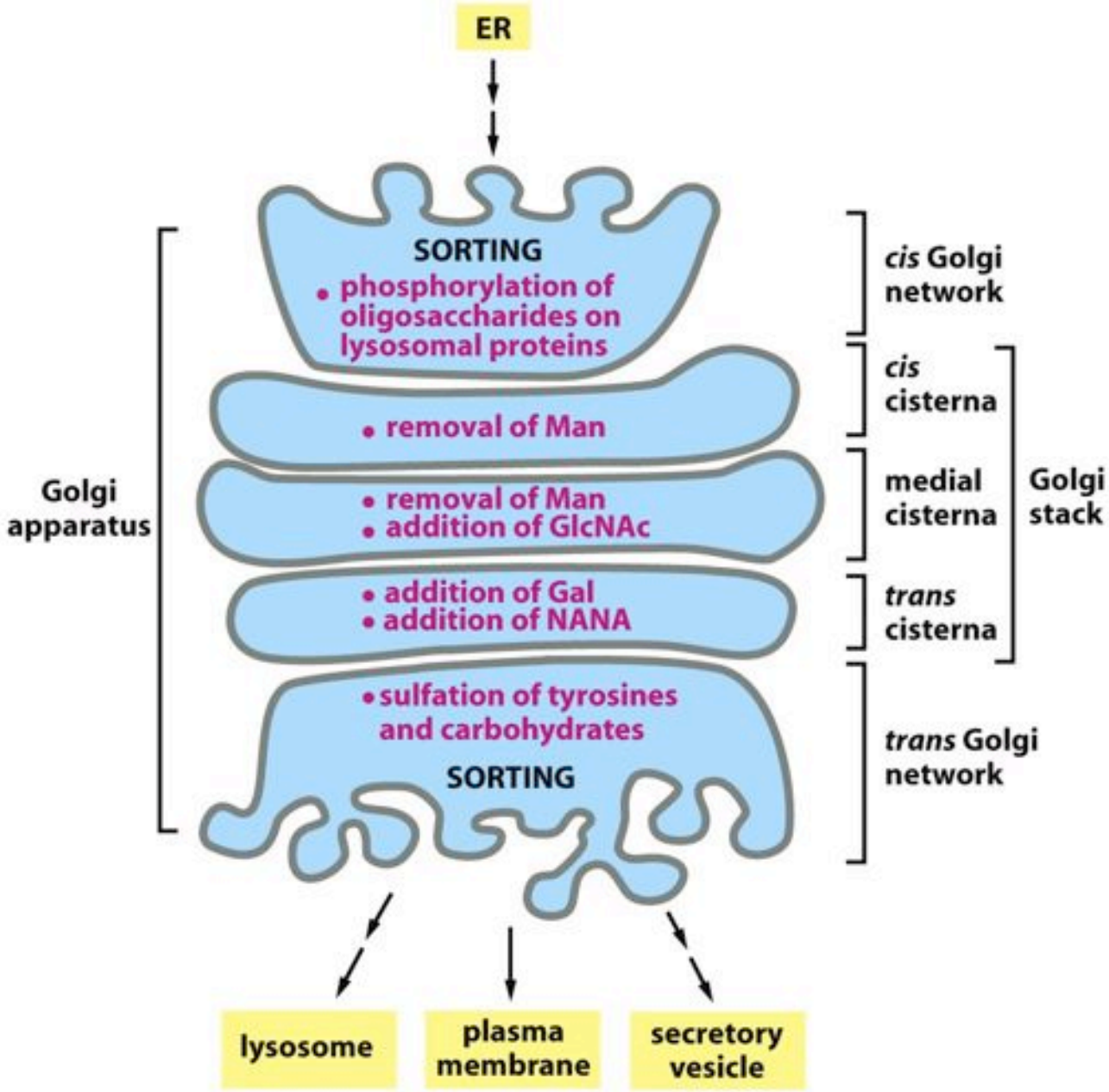


Figure 13-28 *Molecular Biology of the Cell* (© Garland Science 2008)

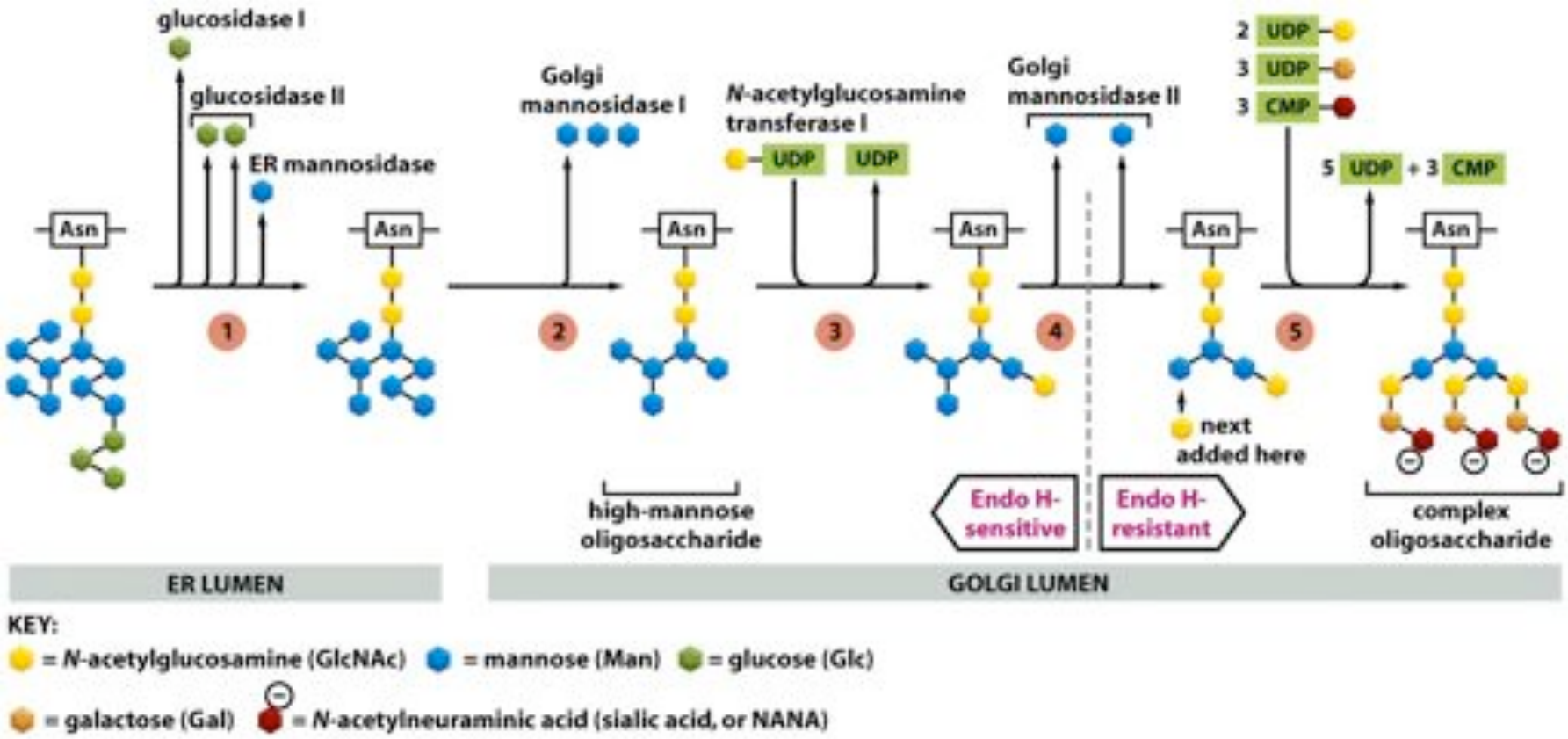


Figure 13-31 *Molecular Biology of the Cell* (© Garland Science 2008)

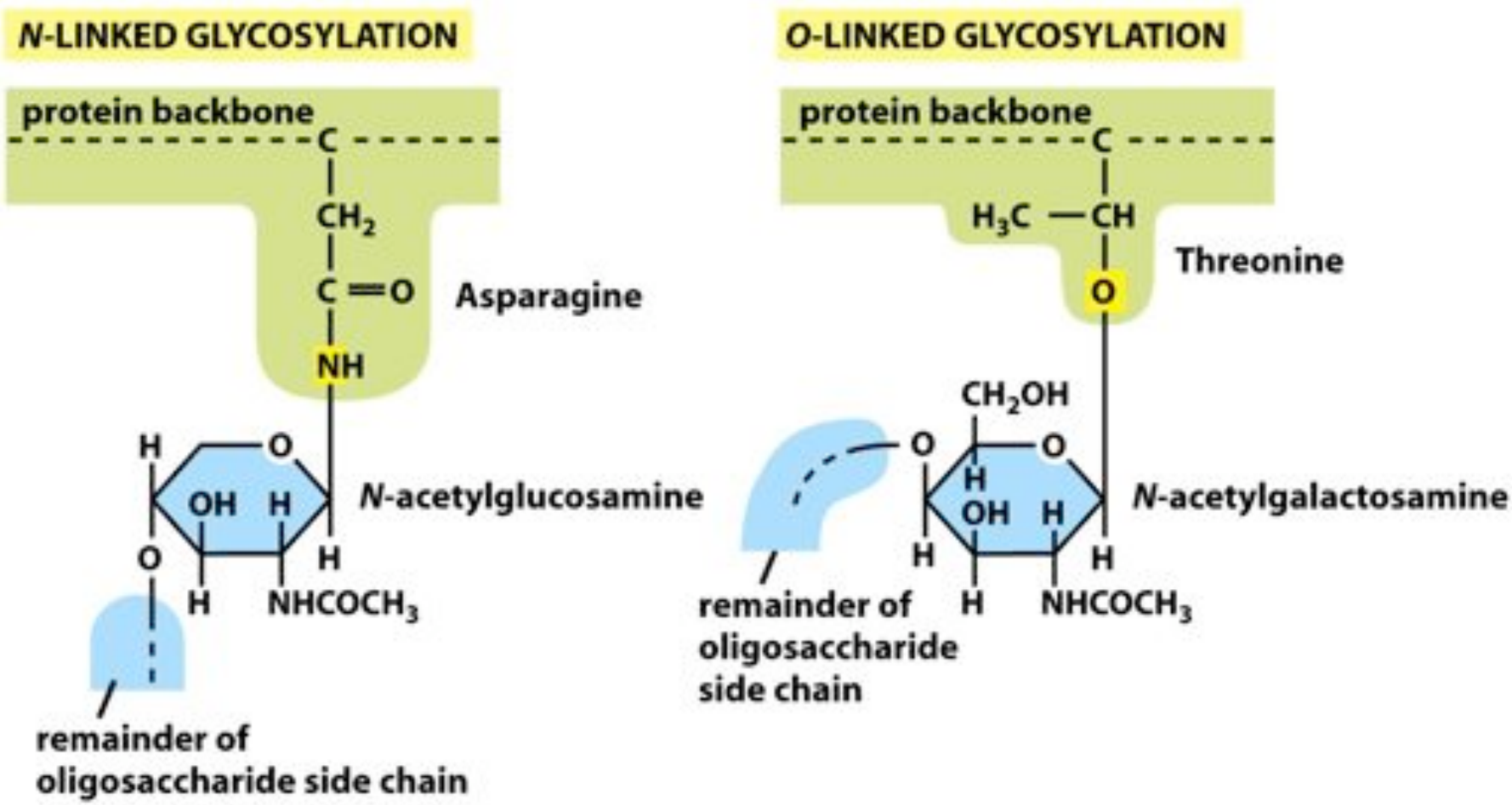
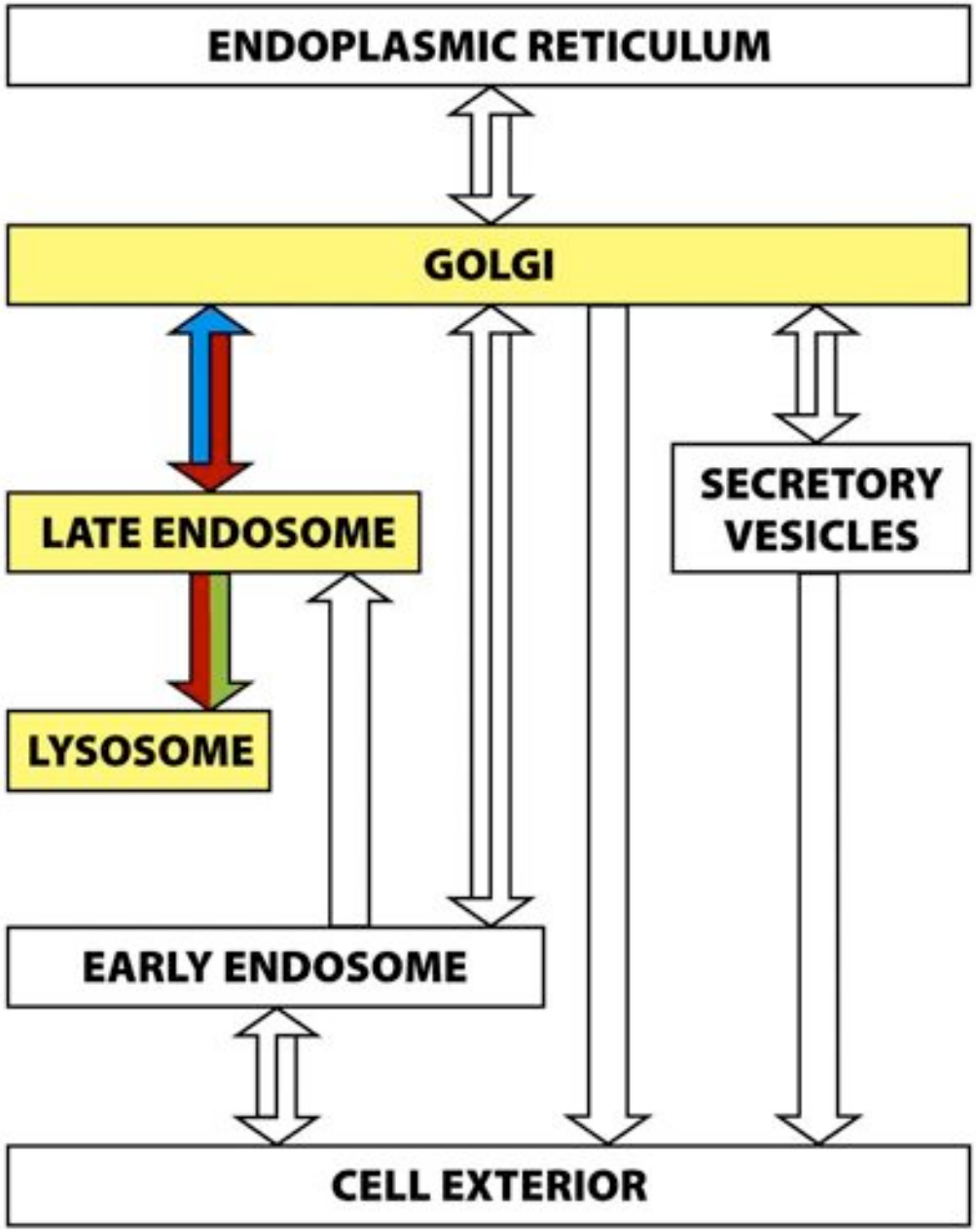


Figure 13-32 *Molecular Biology of the Cell* (© Garland Science 2008)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GOLGI
LATE ENDOSOME
SECRETORY VESICLES
LYSOSOME
EARLY ENDOSOME
CELL EXTERIOR

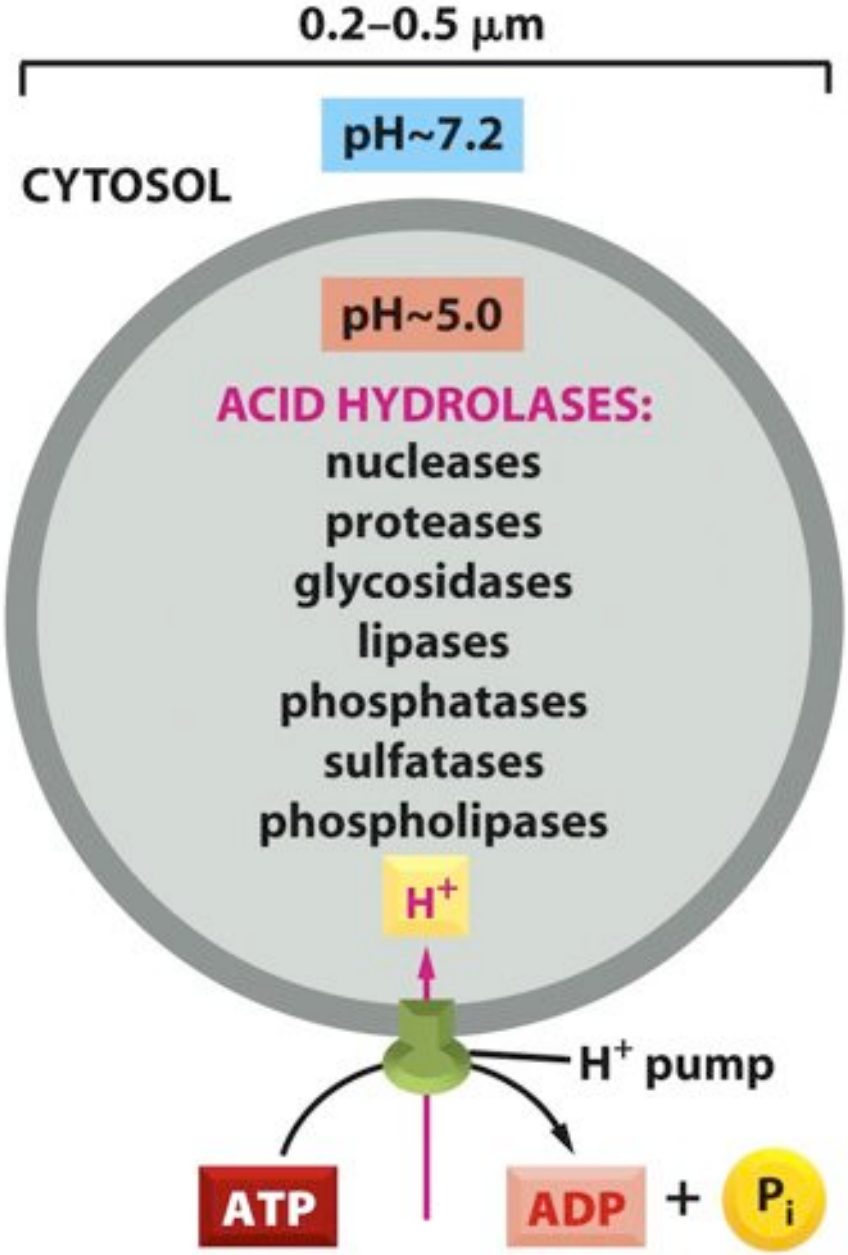


Figure 13-36 *Molecular Biology of the Cell* (© Garland Science 2008)

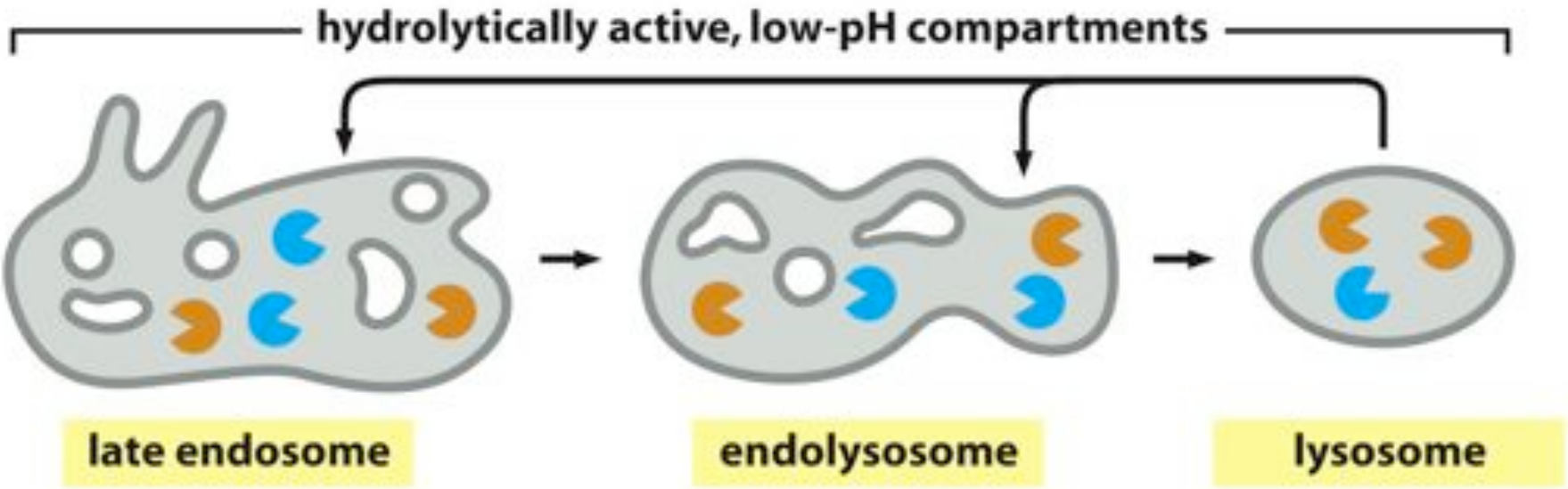


Figure 13-38 *Molecular Biology of the Cell* (© Garland Science 2008)

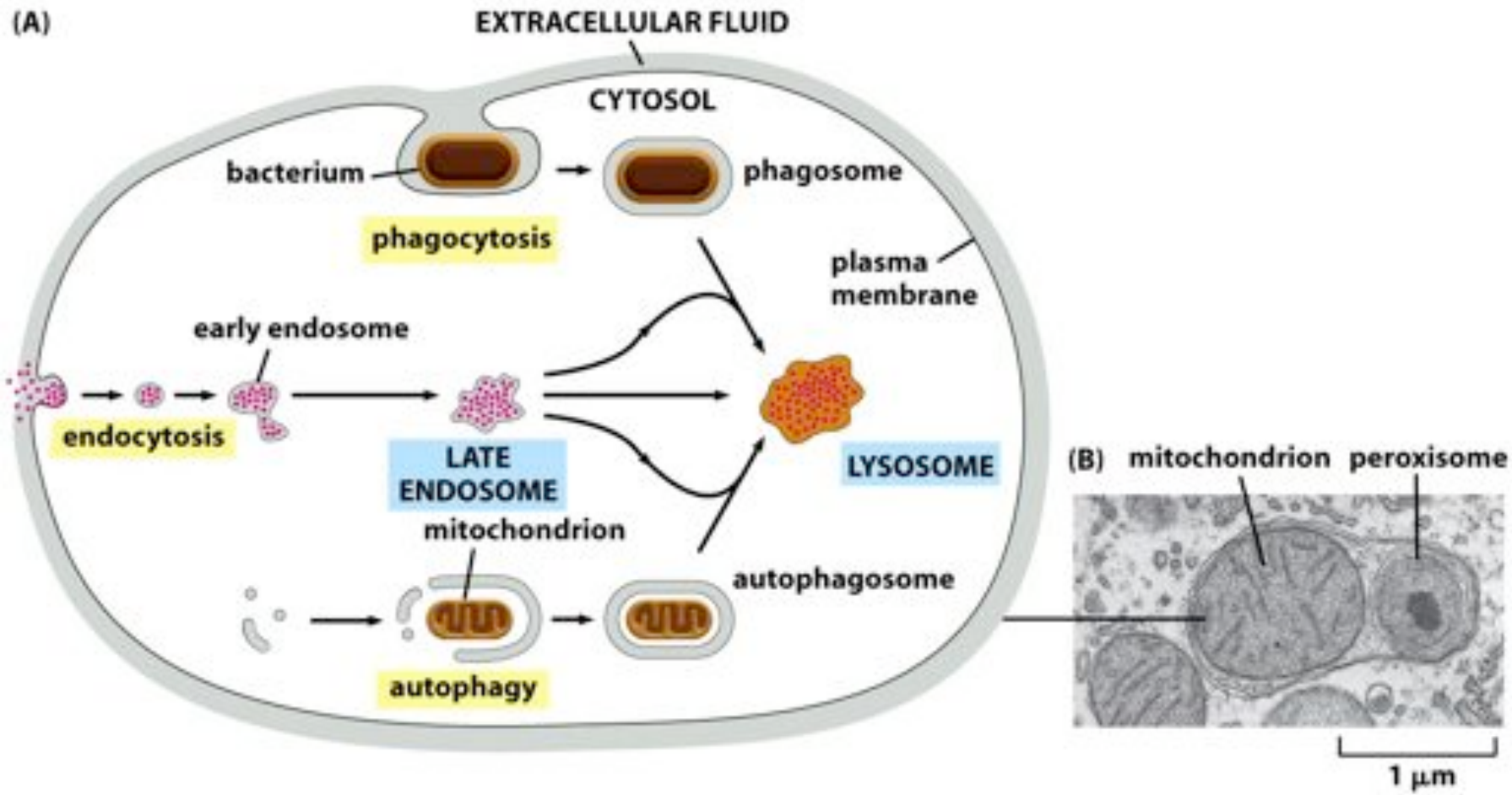


Figure 13-42 *Molecular Biology of the Cell* (© Garland Science 2008)

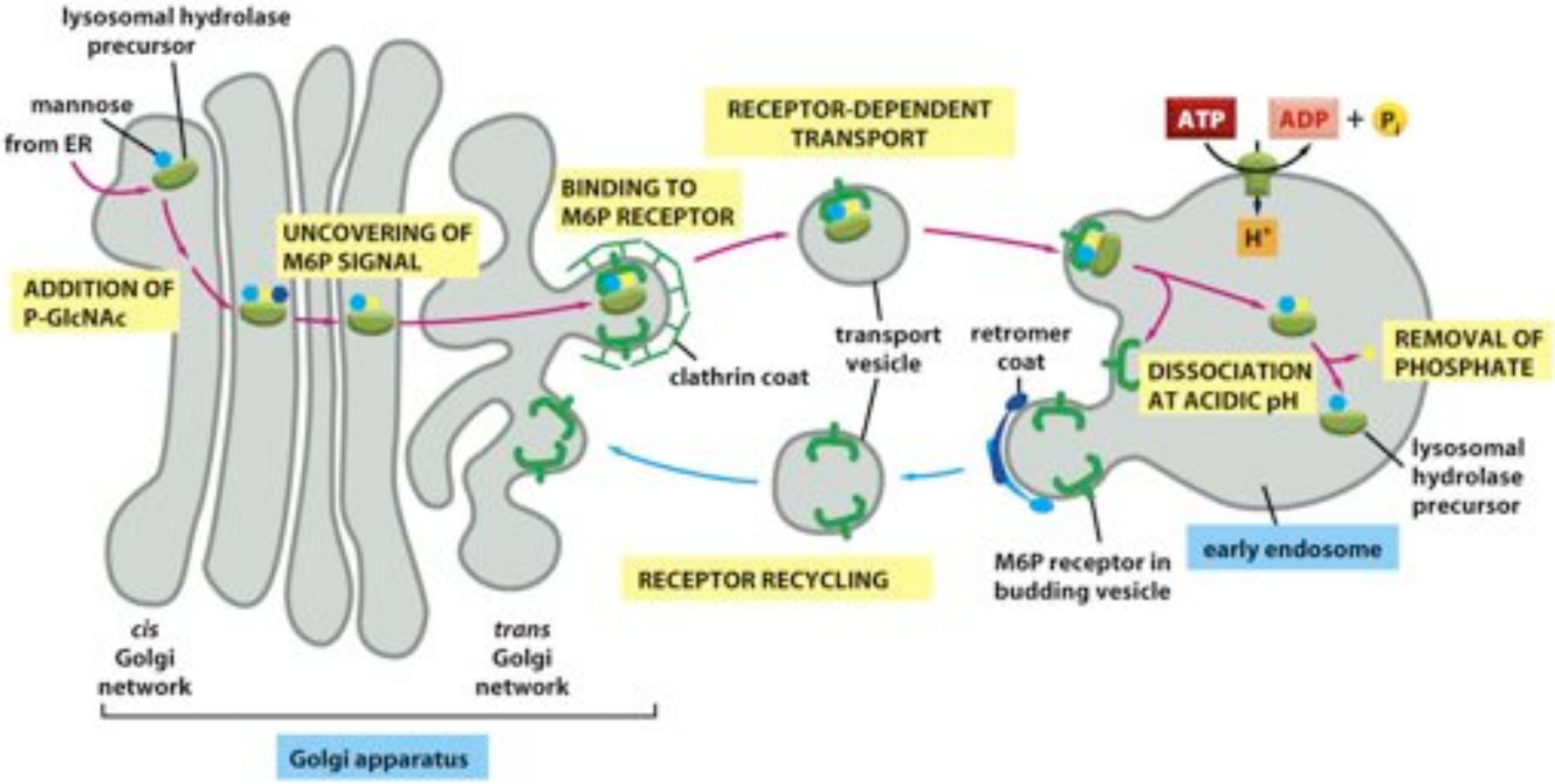
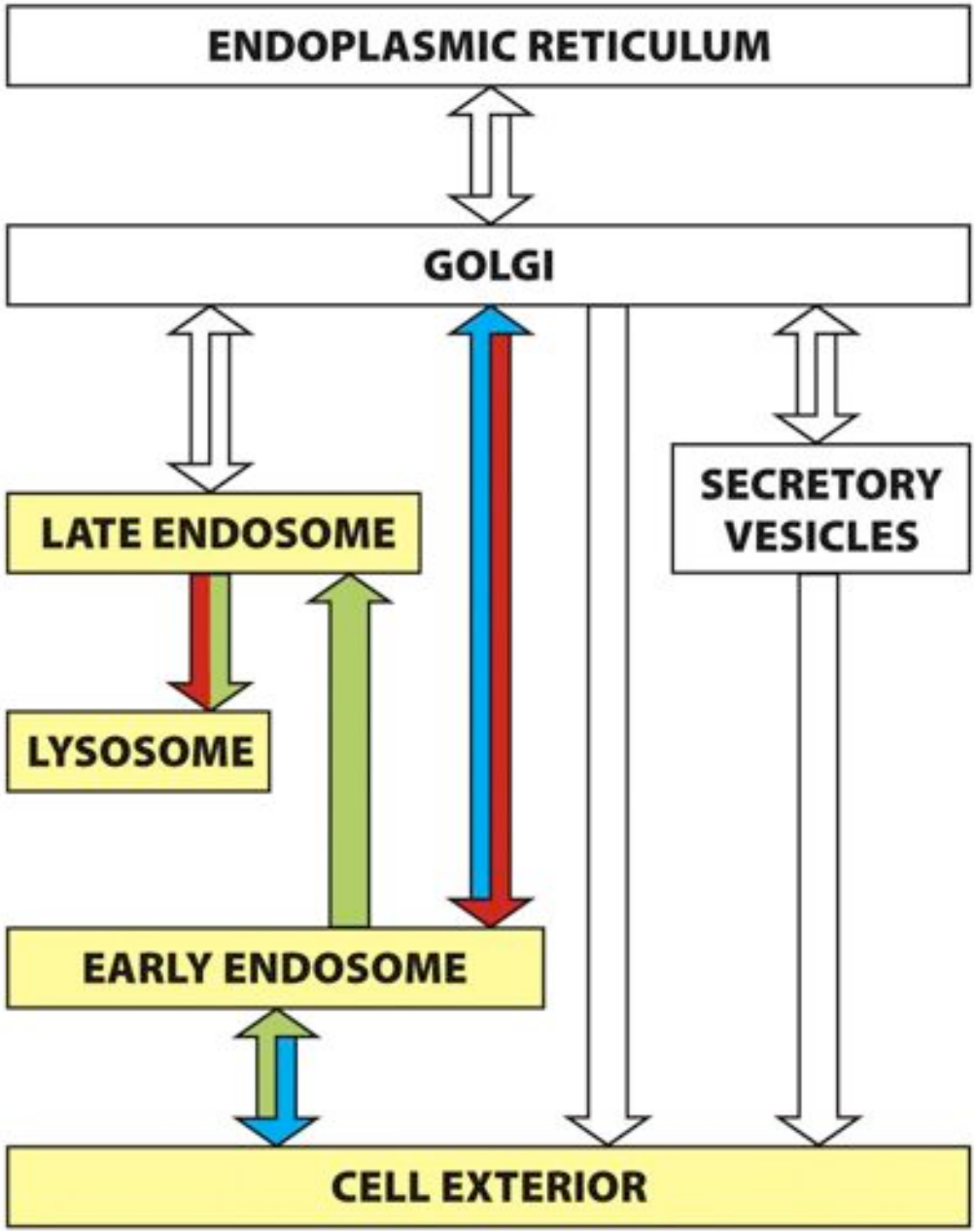


Figure 13-44 *Molecular Biology of the Cell* (© Garland Science 2008)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GOLGI
LATE ENDOSOME
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LYSOSOME
EARLY ENDOSOME
CELL EXTERIOR

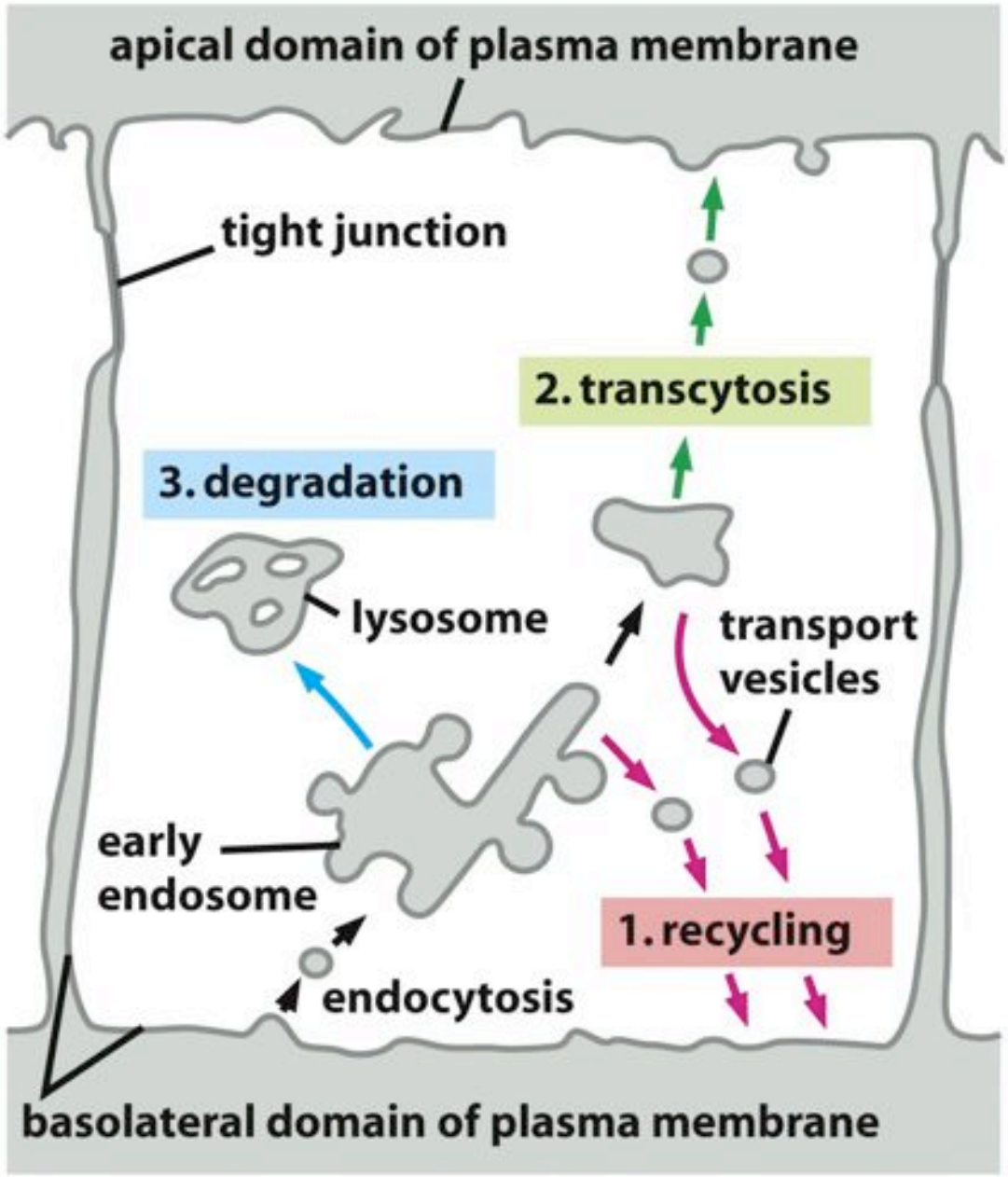


Figure 13-52 *Molecular Biology of the Cell* (© Garland Science 2008)

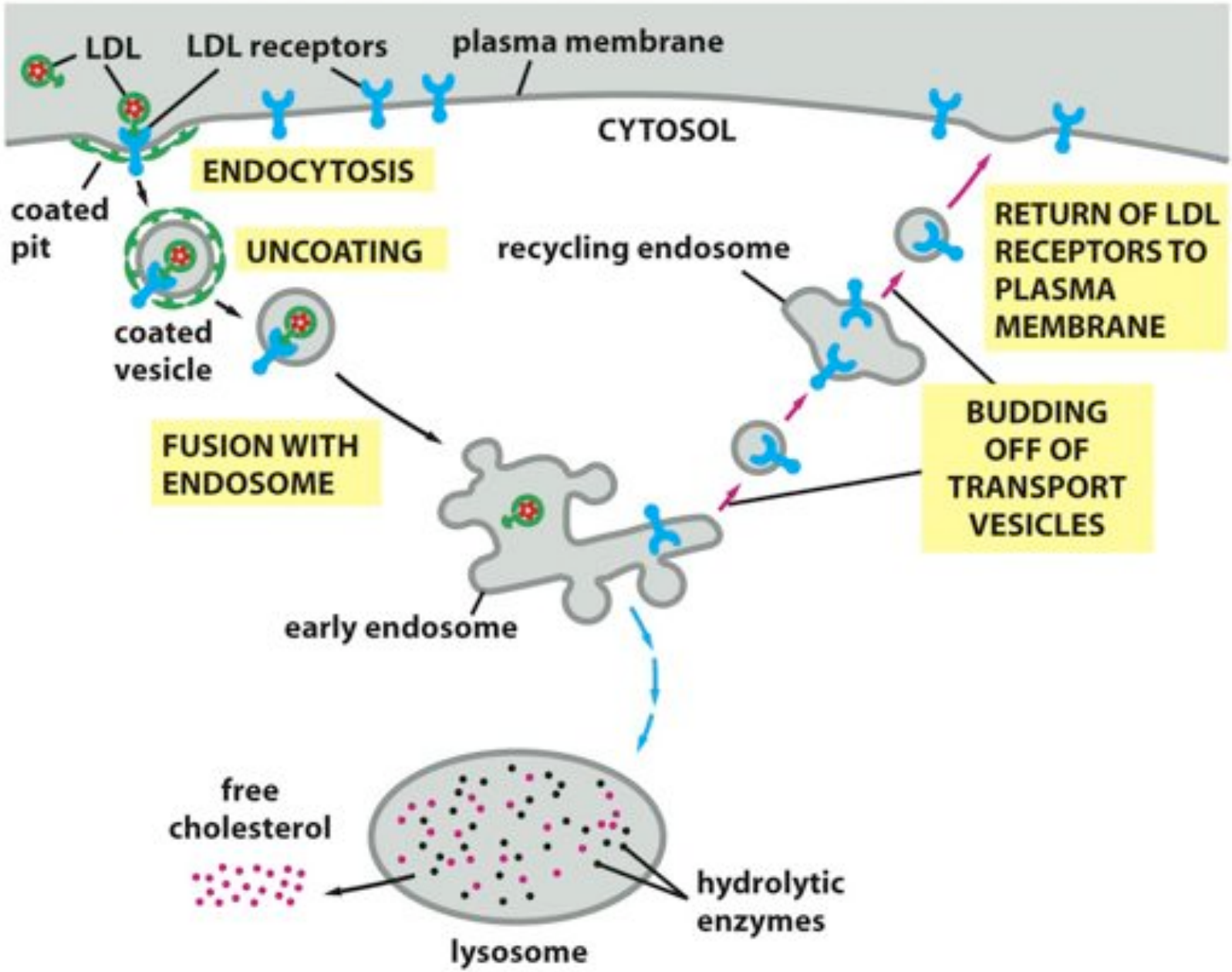


Figure 13-53 *Molecular Biology of the Cell* (© Garland Science 2008)

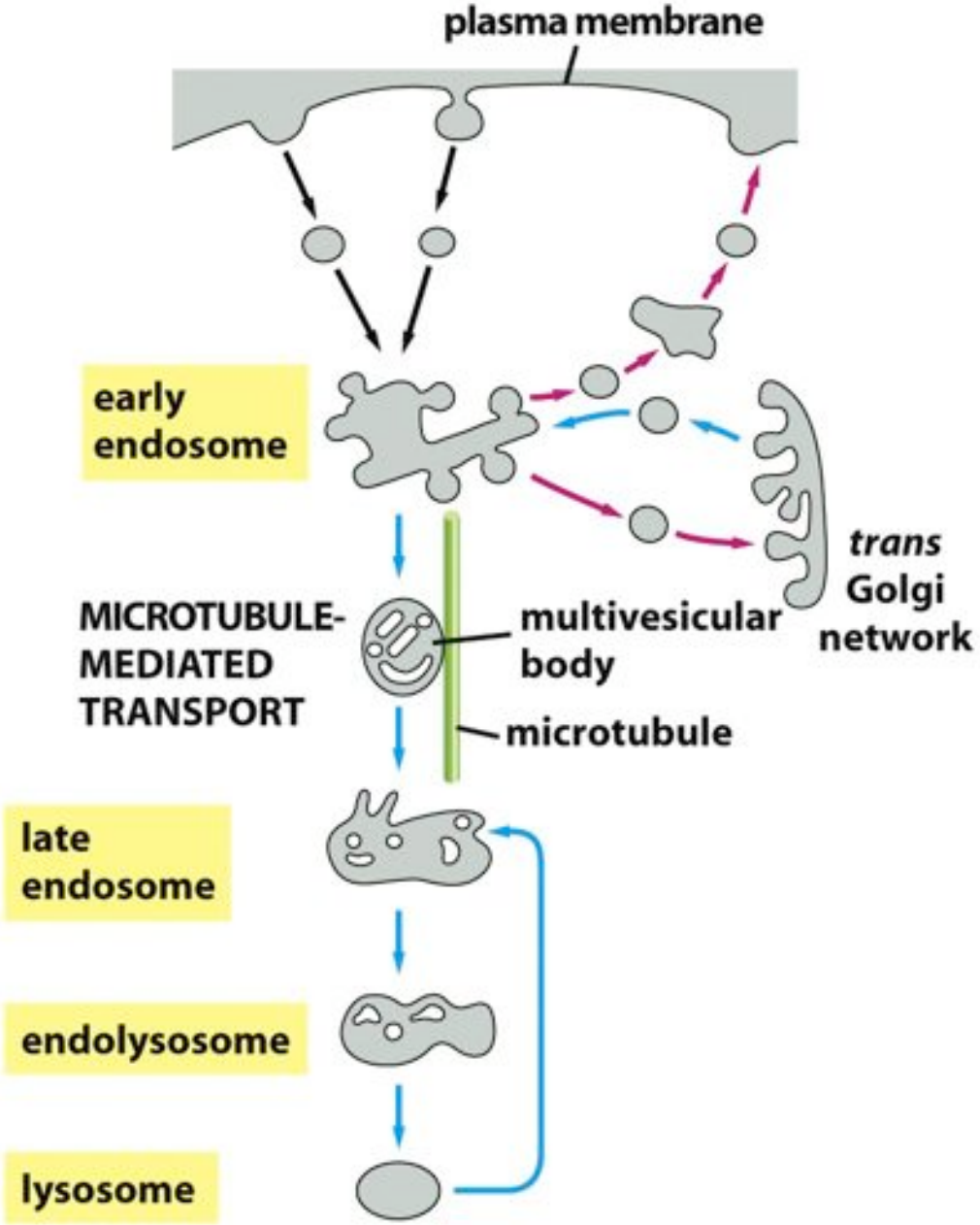


Figure 13-56 *Molecular Biology of the Cell* (© Garland Science 2008)

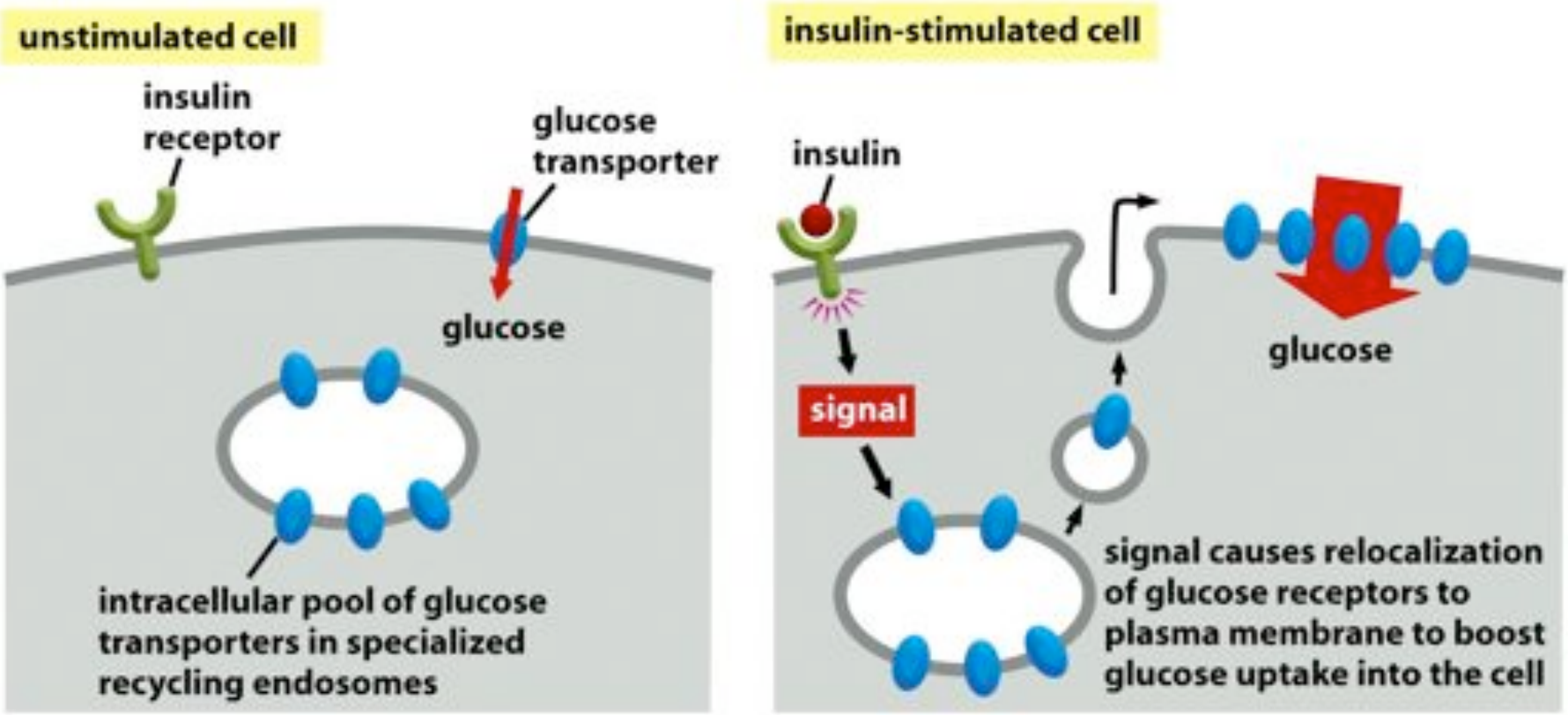


Figure 13-61 *Molecular Biology of the Cell* (© Garland Science 2008)

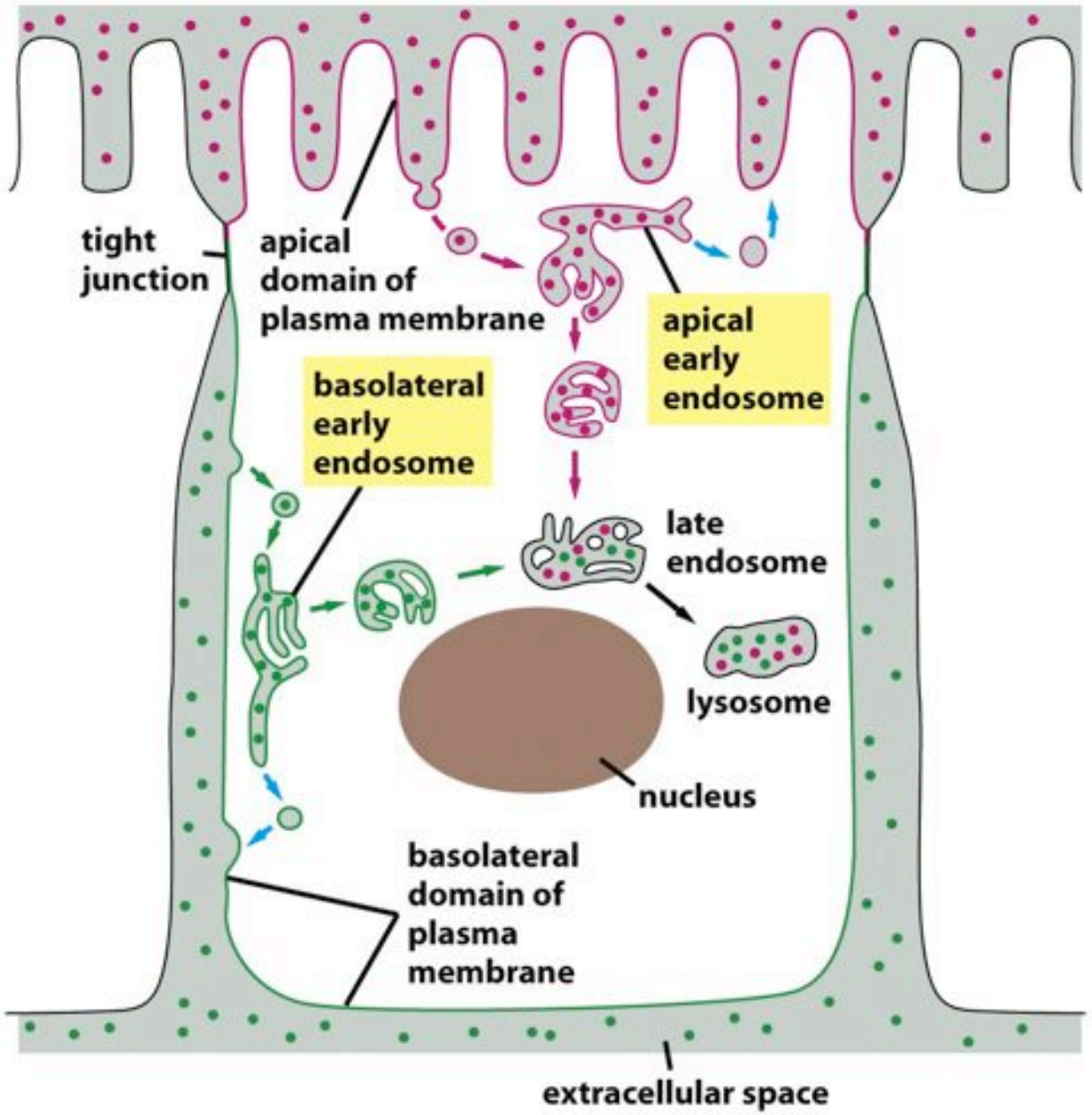
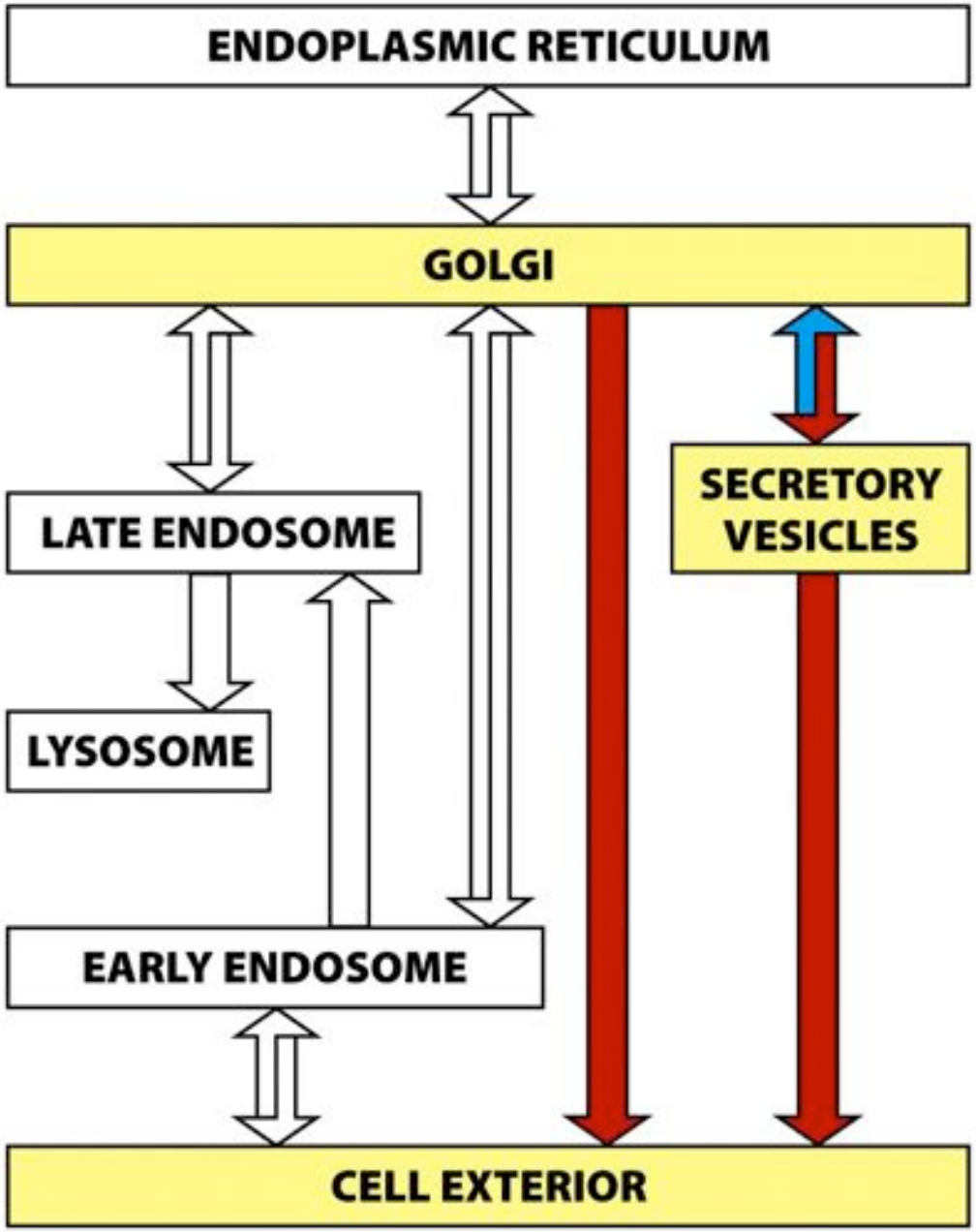


Figure 13-62 *Molecular Biology of the Cell* (© Garland Science 2008)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GOLGI
LATE ENDOSOME
SECRETORY VESICLES
LYSOSOME
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CELL EXTERIOR

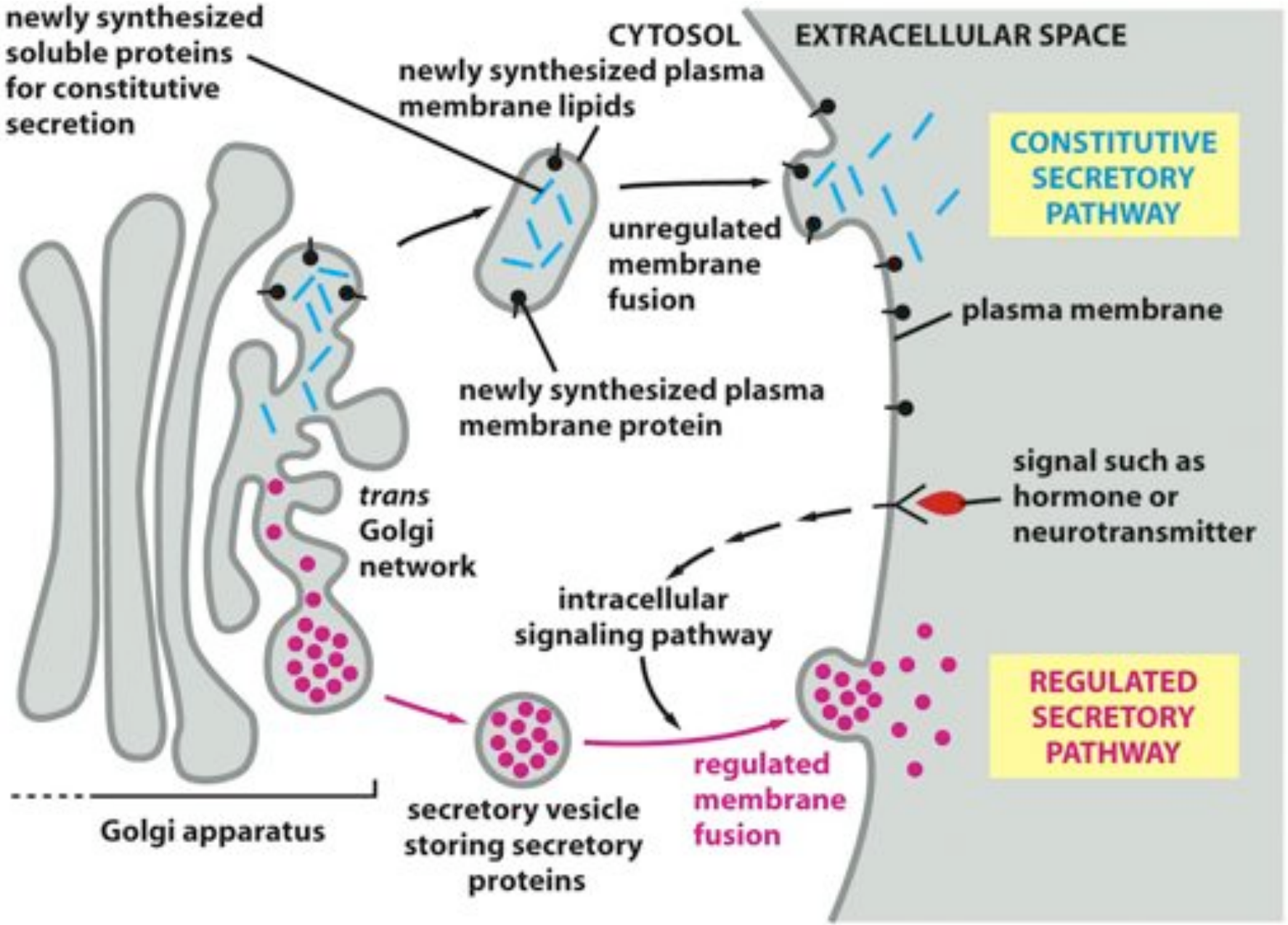


Figure 13-63 *Molecular Biology of the Cell* (© Garland Science 2008)

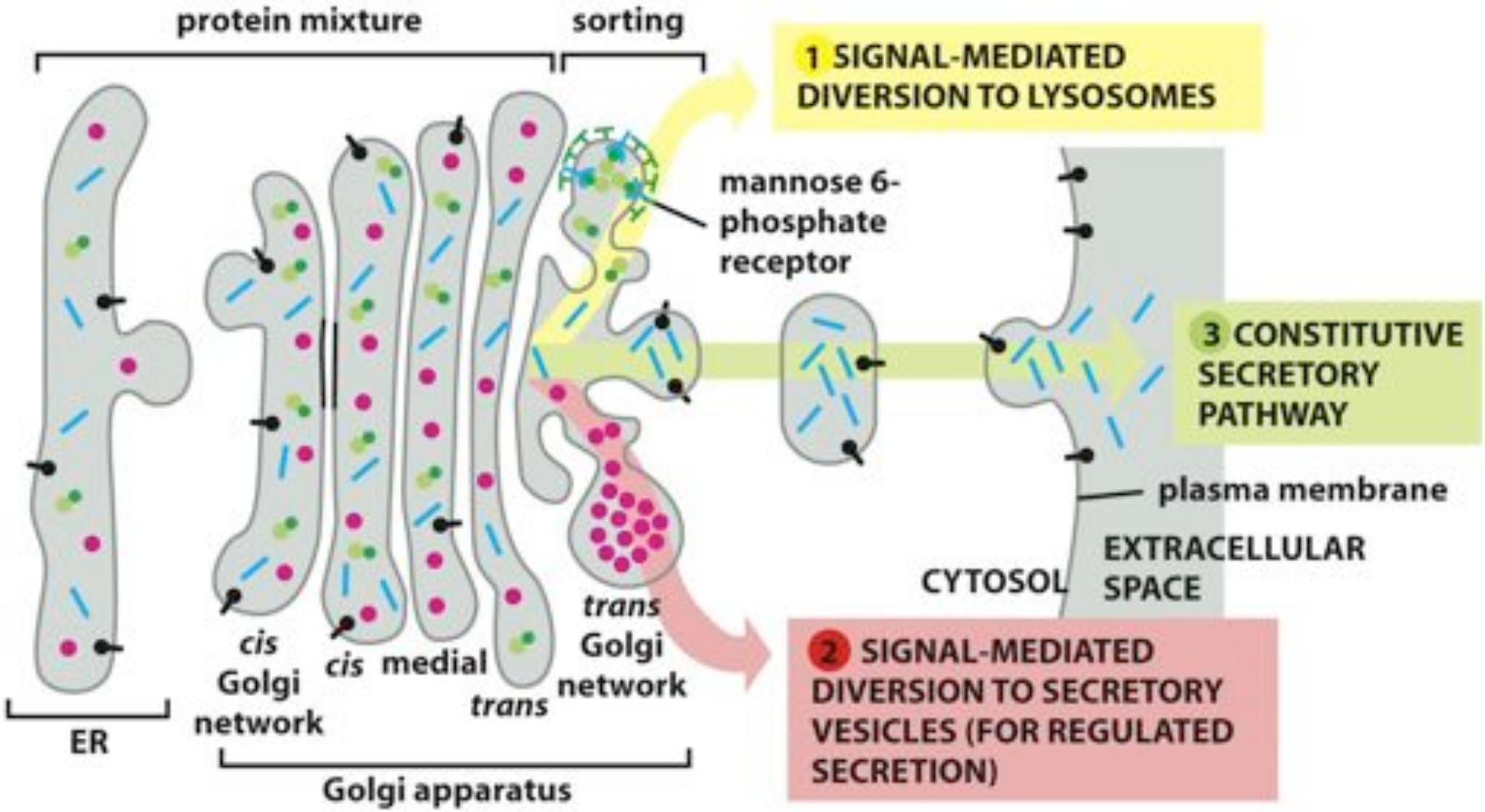


Figure 13-64 *Molecular Biology of the Cell* (© Garland Science 2008)

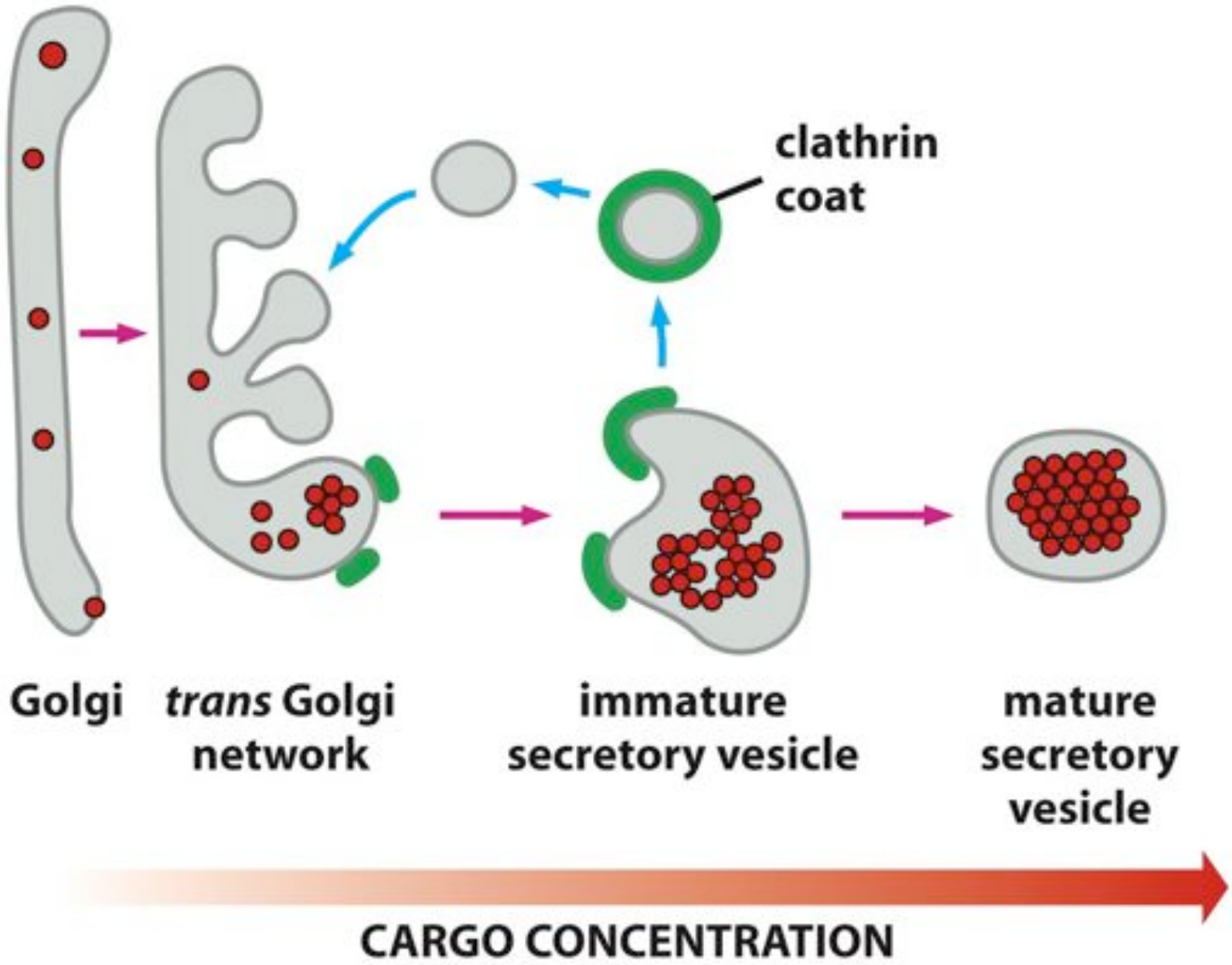


Figure 13-65a *Molecular Biology of the Cell* (© Garland Science 2008)

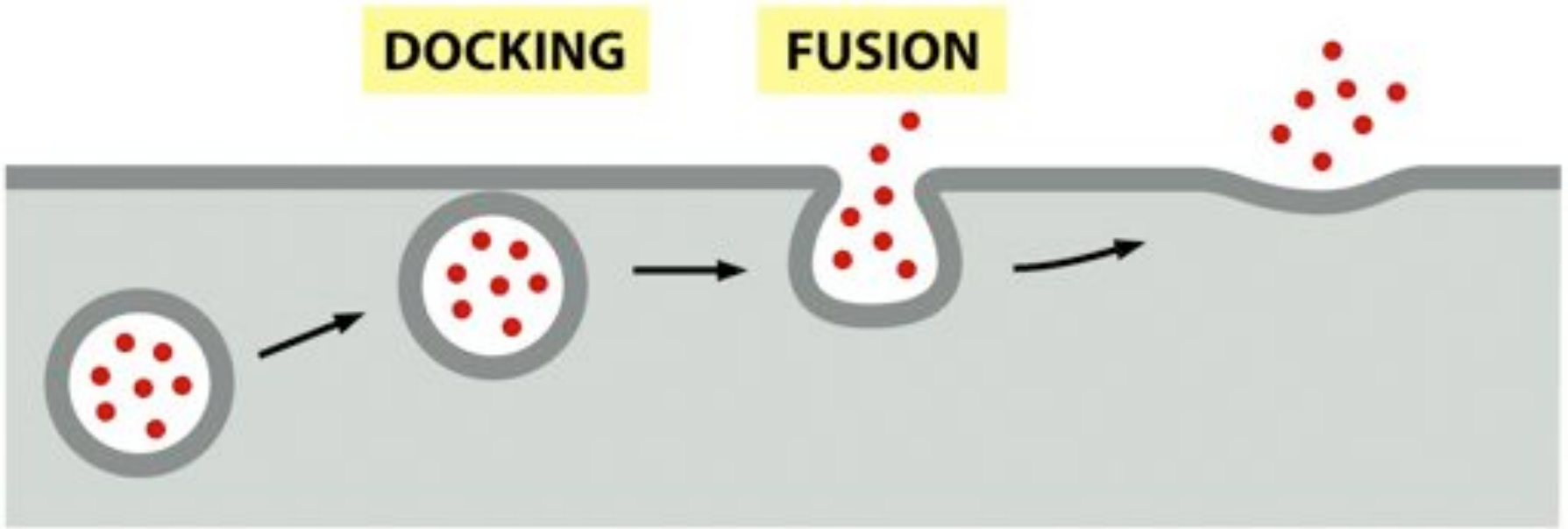


Figure 13-66a *Molecular Biology of the Cell* (© Garland Science 2008)

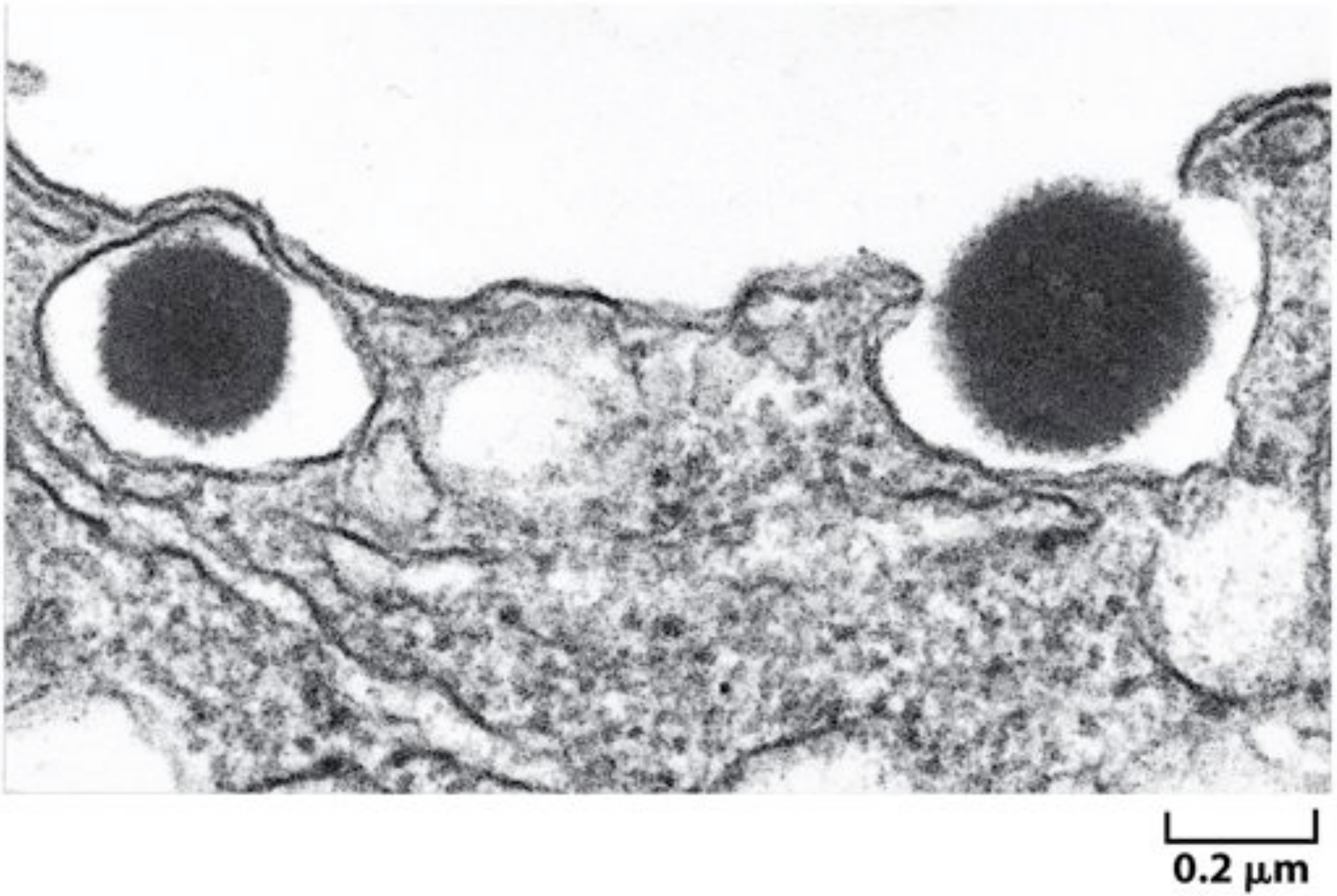
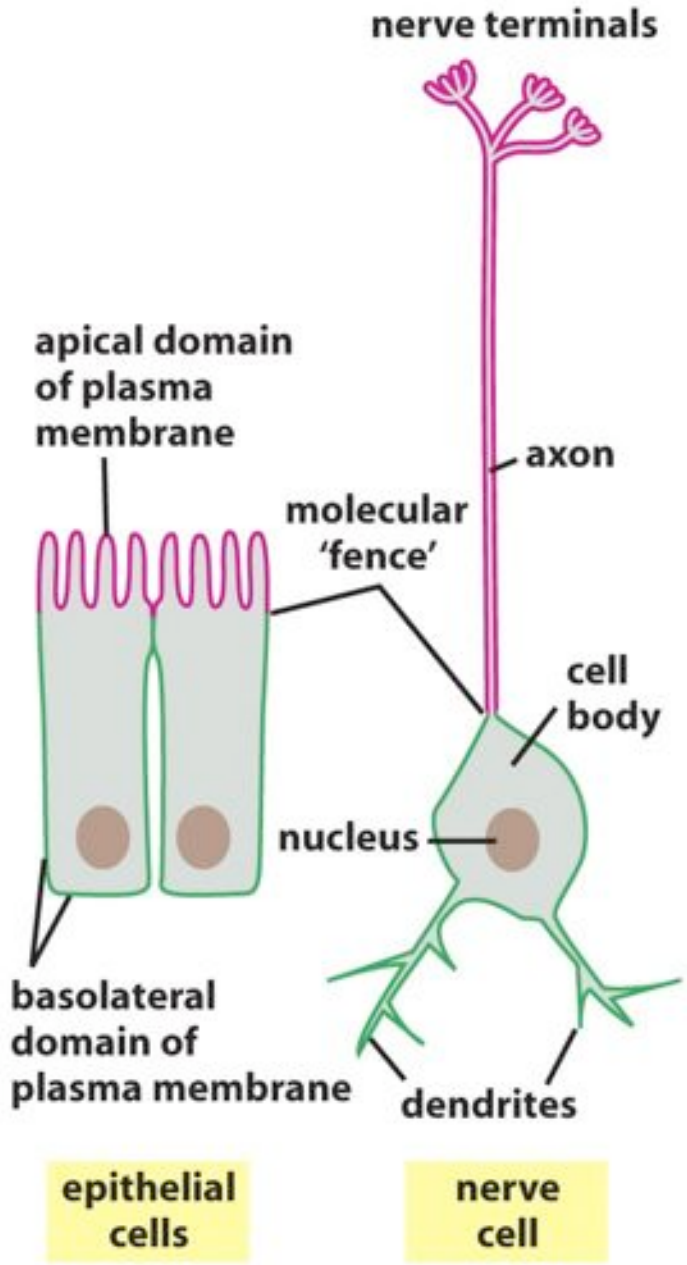


Figure 13-66b *Molecular Biology of the Cell* (© Garland Science 2008)



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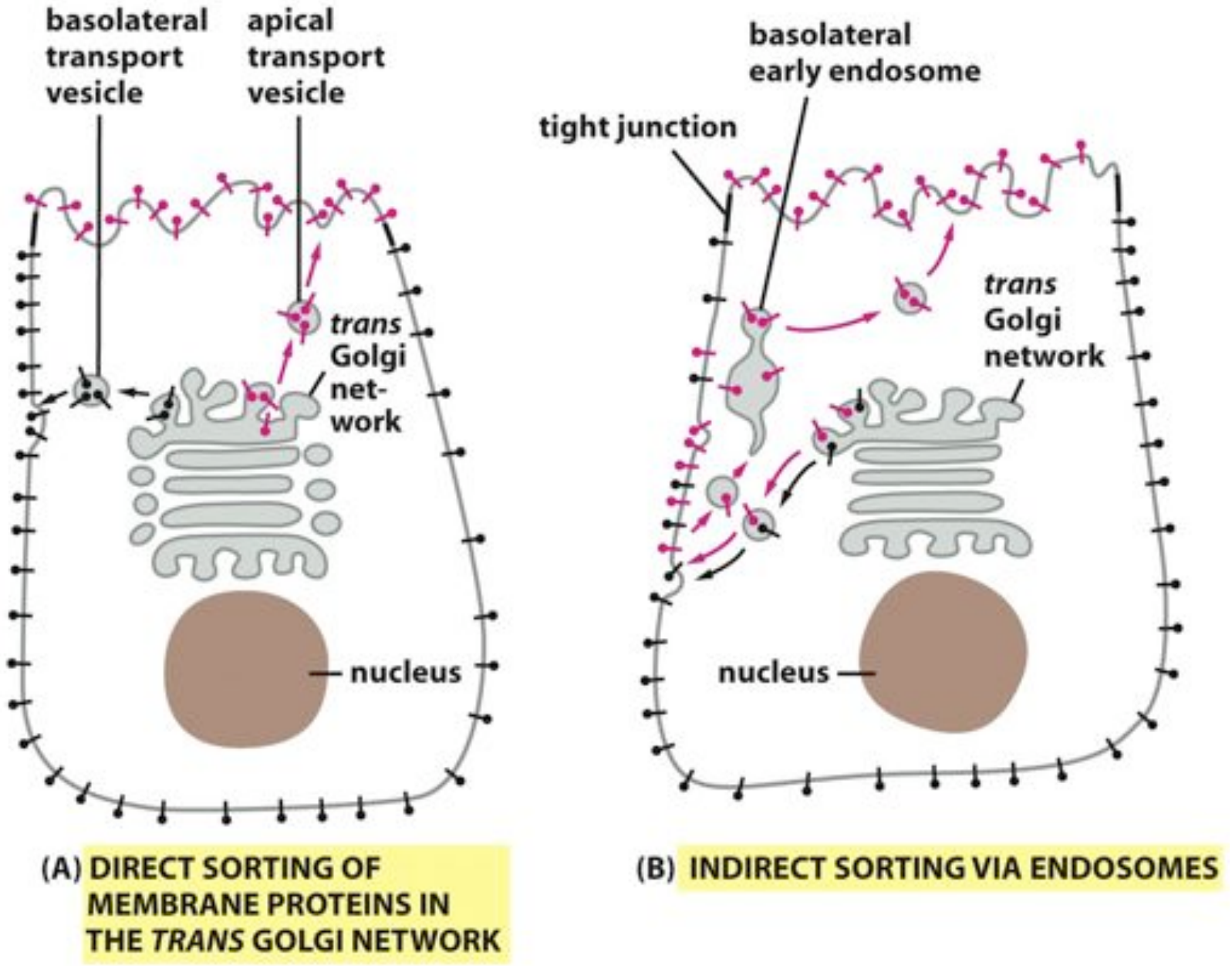

Figure 13-72 *Molecular Biology of the Cell* (© Garland Science 2008)

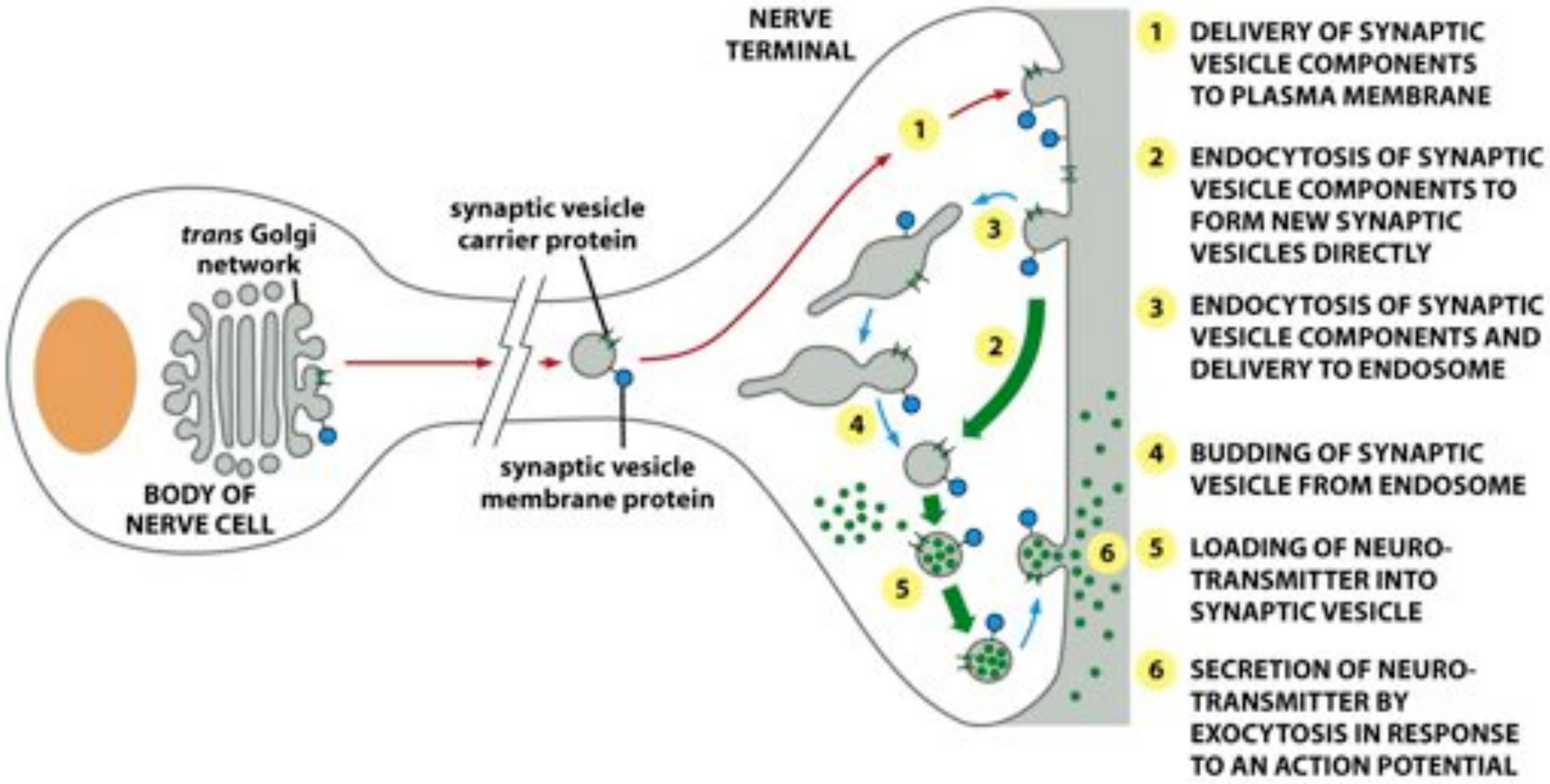

Figure 13-73 *Molecular Biology of the Cell* (© Garland Science 2008)