# Traducción

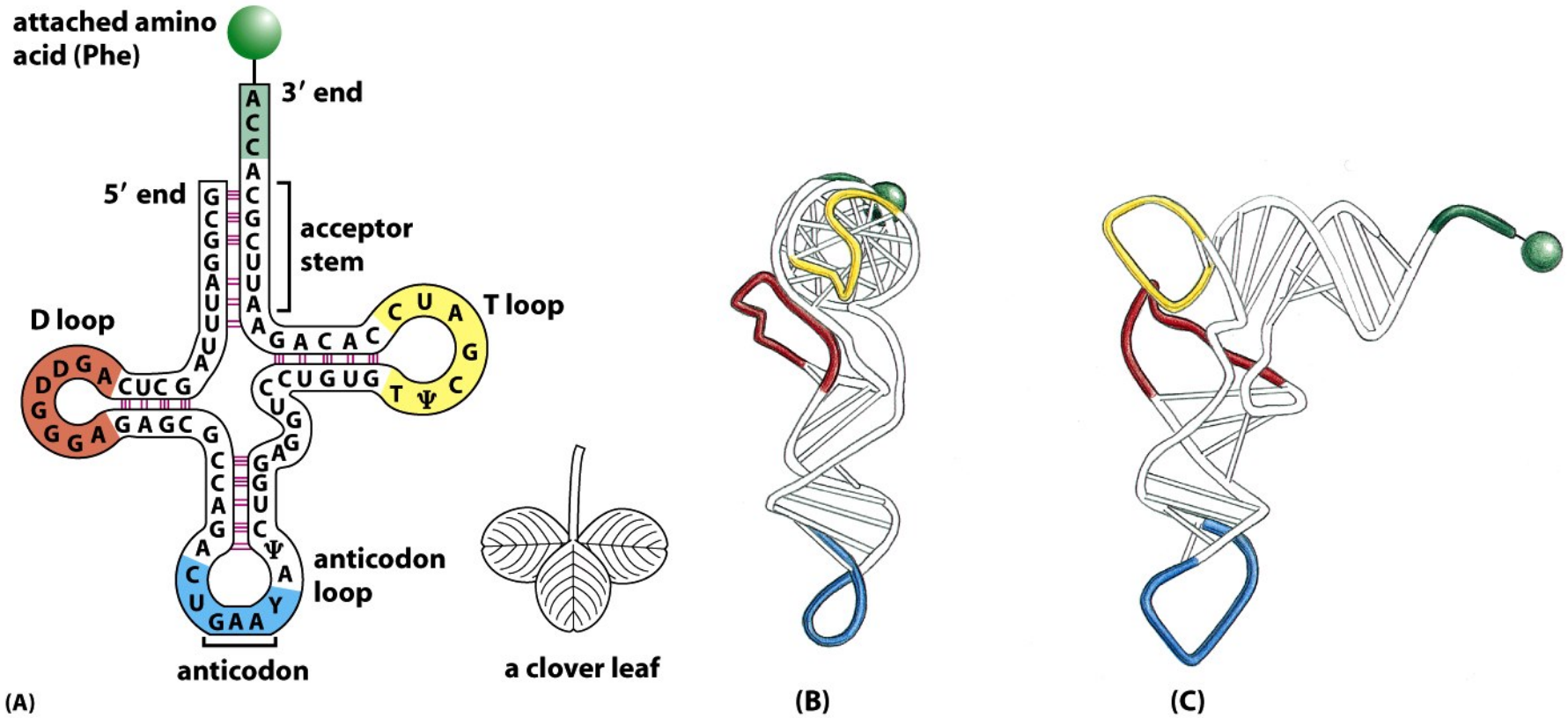
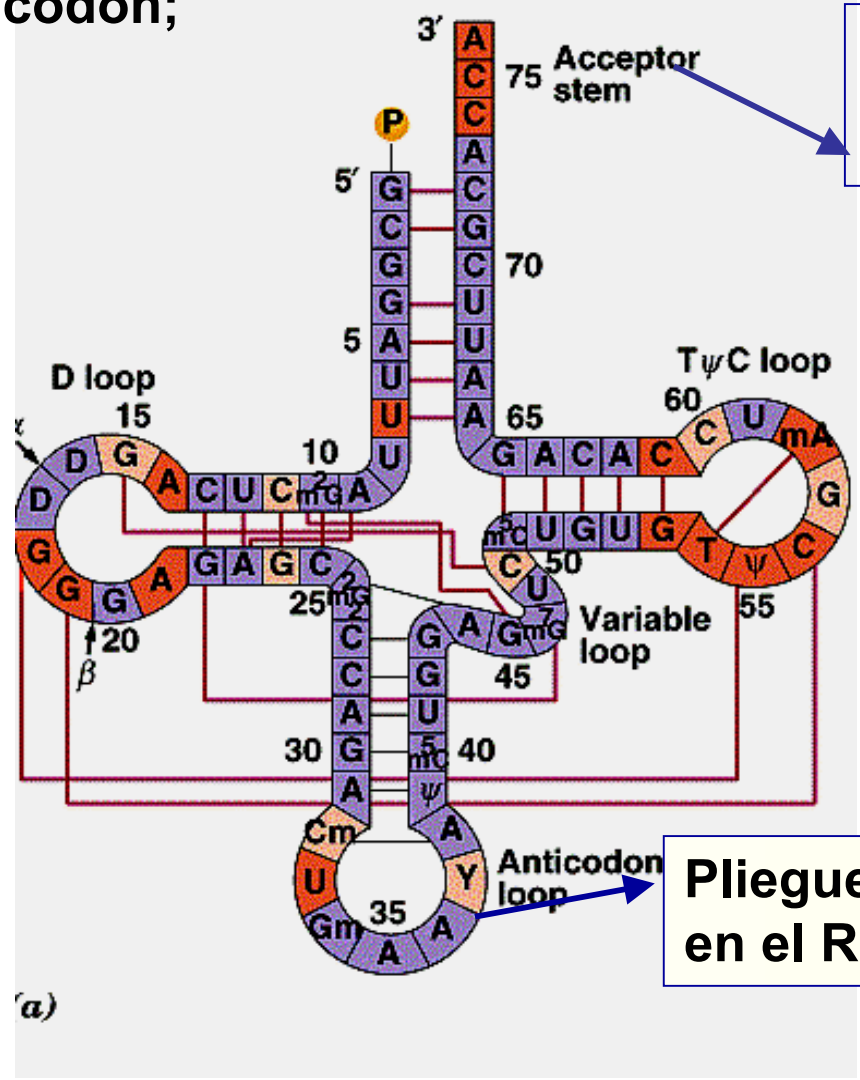



Figure 6-52 *Molecular Biology of the Cell* (© Garland Science 2008)

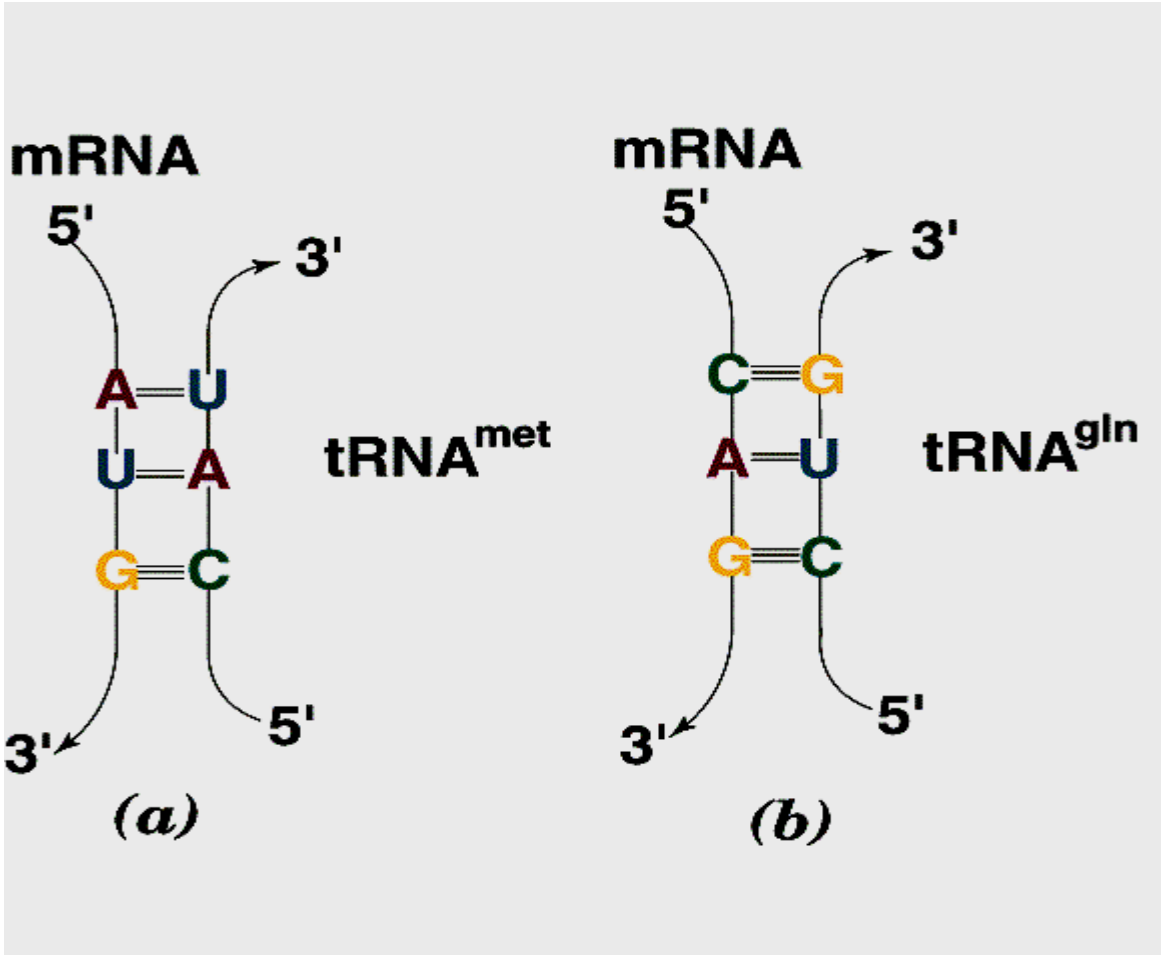
**Los RNAt son moléculas pequeñas (70-80 nucleótidos), y hay varias para los distintos aminoácidos. Son moléculas adaptadoras, reconocen: un codón en el RNAm y al aminoácido que corresponde al codón;**



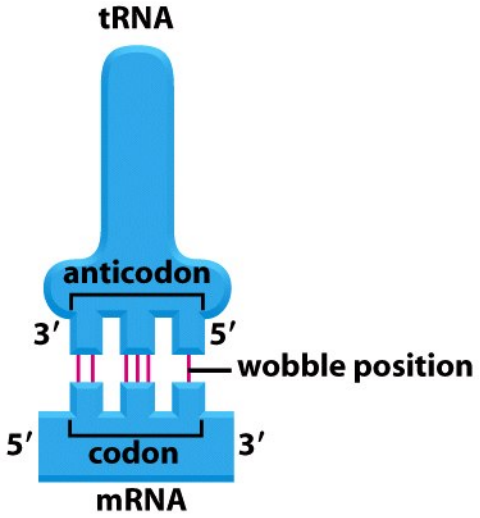

**El extremo 3´, aceptor, reconoce y une al aminoácido correspondiente**

**La enzima que cataliza la unión de los RNAt con el aminoácido correspondiente es la aminoacil-tRNA- sintetasa.**

**Pliegue anticodón, reconoce y une al codón en el RNAm, con bases complementarias.**




**Interacciones codón anticodón. a) Interacción entre el codón AUG y su anti codón CAU. b) El codón CAG (glutamina) y su anticodón (CUG). Hay interacciones complementarias de apareamiento anti paralelo entre mRNA y tRNA. Este reconocimiento ocurre en los ribosomas.**




**bacteria**

| wobble codon base | possible anticodon bases |
|---|---|
| U | A, G, or I |
| C | G or I |
| A | U or I |
| G | C or U |

**eucaryotes**

| wobble codon base | possible anticodon bases |
|---|---|
| U | A, G, or I |
| C | G or I |
| A | U |
| G | C |

Figure 6-53 *Molecular Biology of the Cell* (© Garland Science 2008)

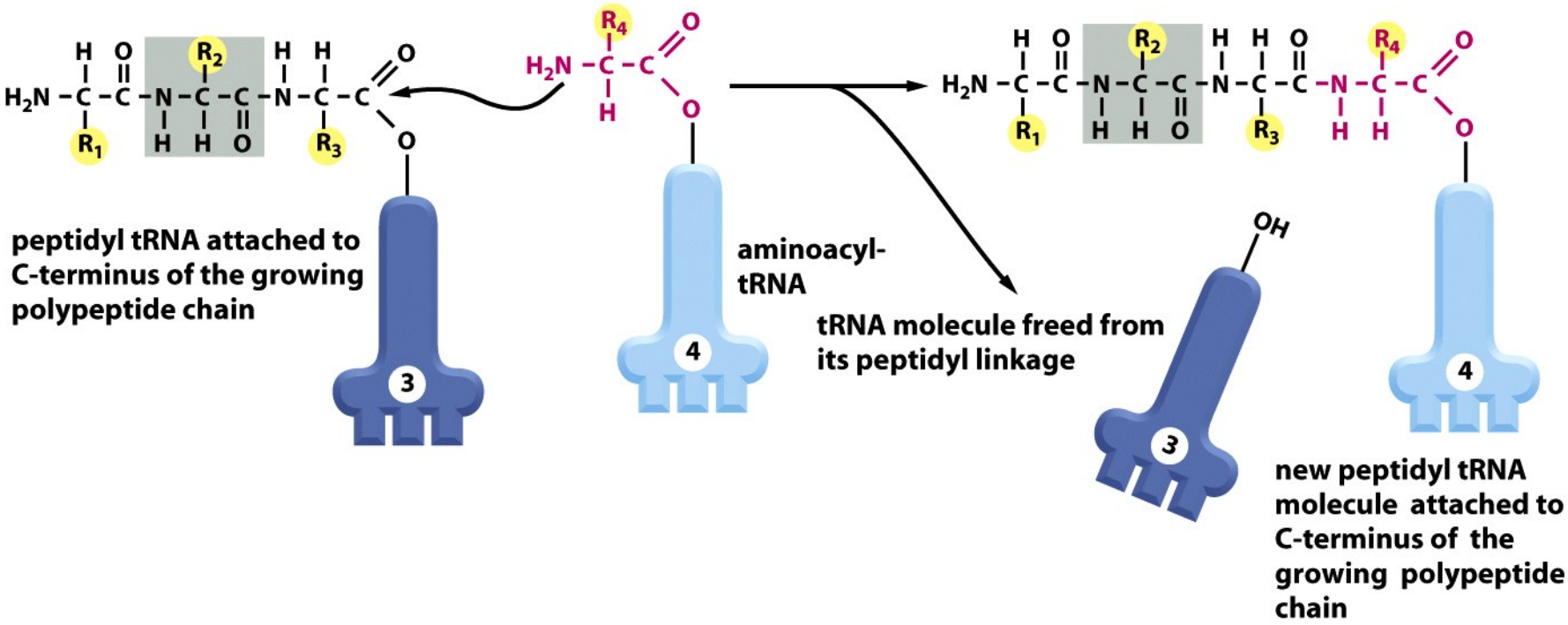
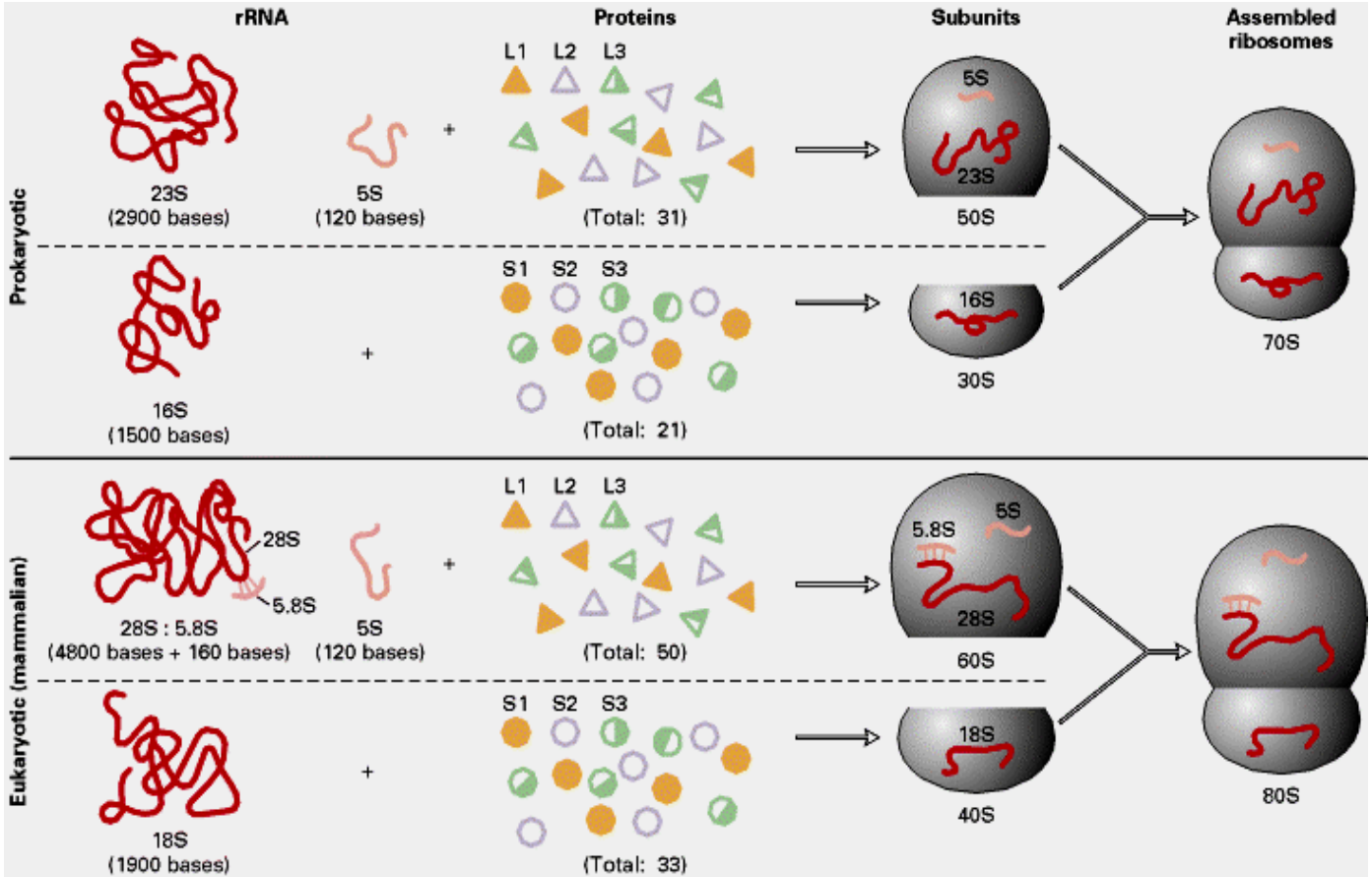



Figure 6-61 *Molecular Biology of the Cell* (© Garland Science 2008)

**Composición de ribosomas de procariontes y eucariontes, cada uno con una sub-unidad pequeña y otra grande**




**Los ribosomas son organizaciones macromoleculares que sintetizan proteínas. Un ribosoma es una partícula compuesta de moléculas de RNA individuales (contienen un tercio del RNA celular) y mas de 50 proteínas, organizadas en una sub unidad pequeña y otra grande.**

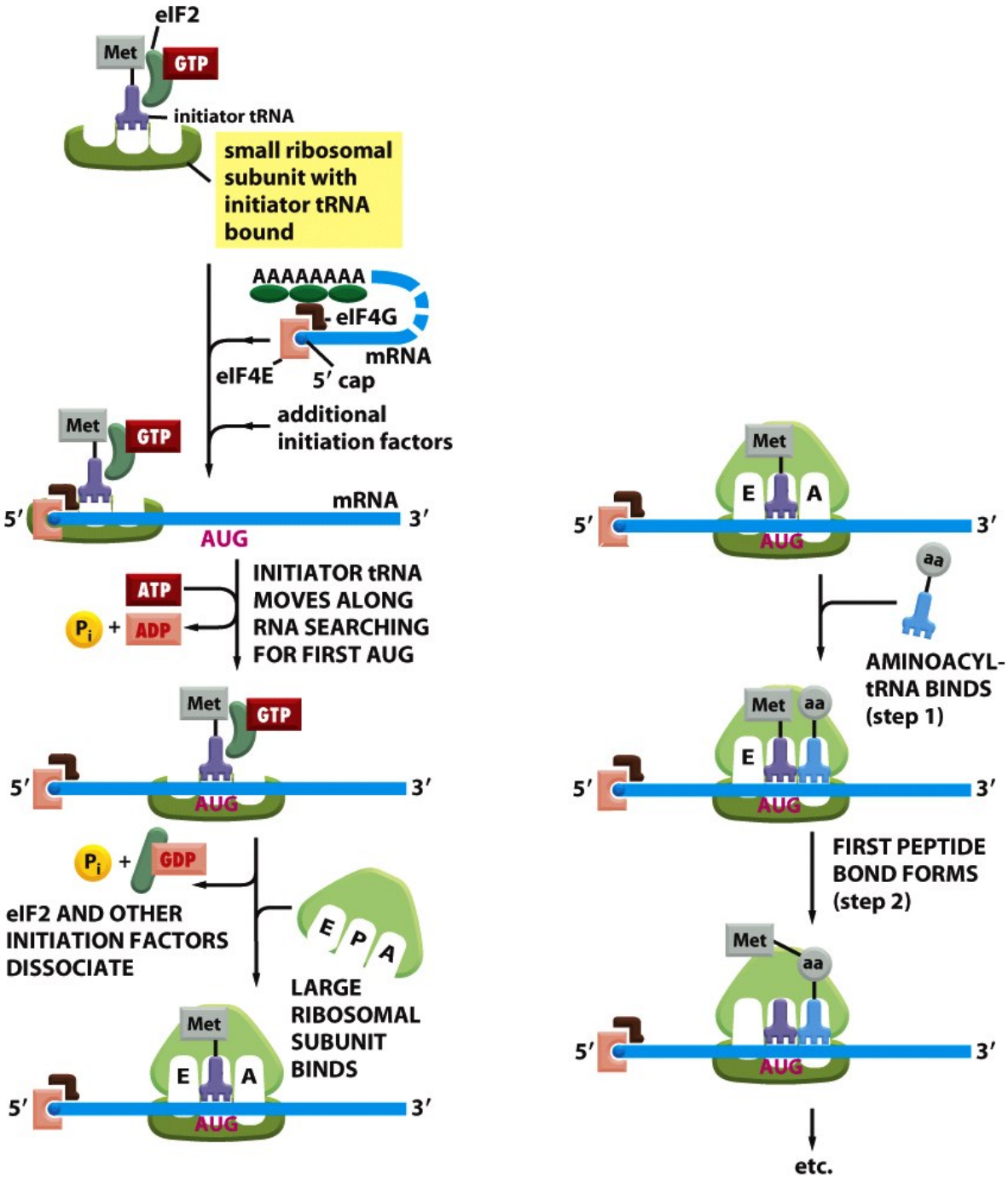



Figure 6-72 *Molecular Biology of the Cell* (© Garland Science 2008)

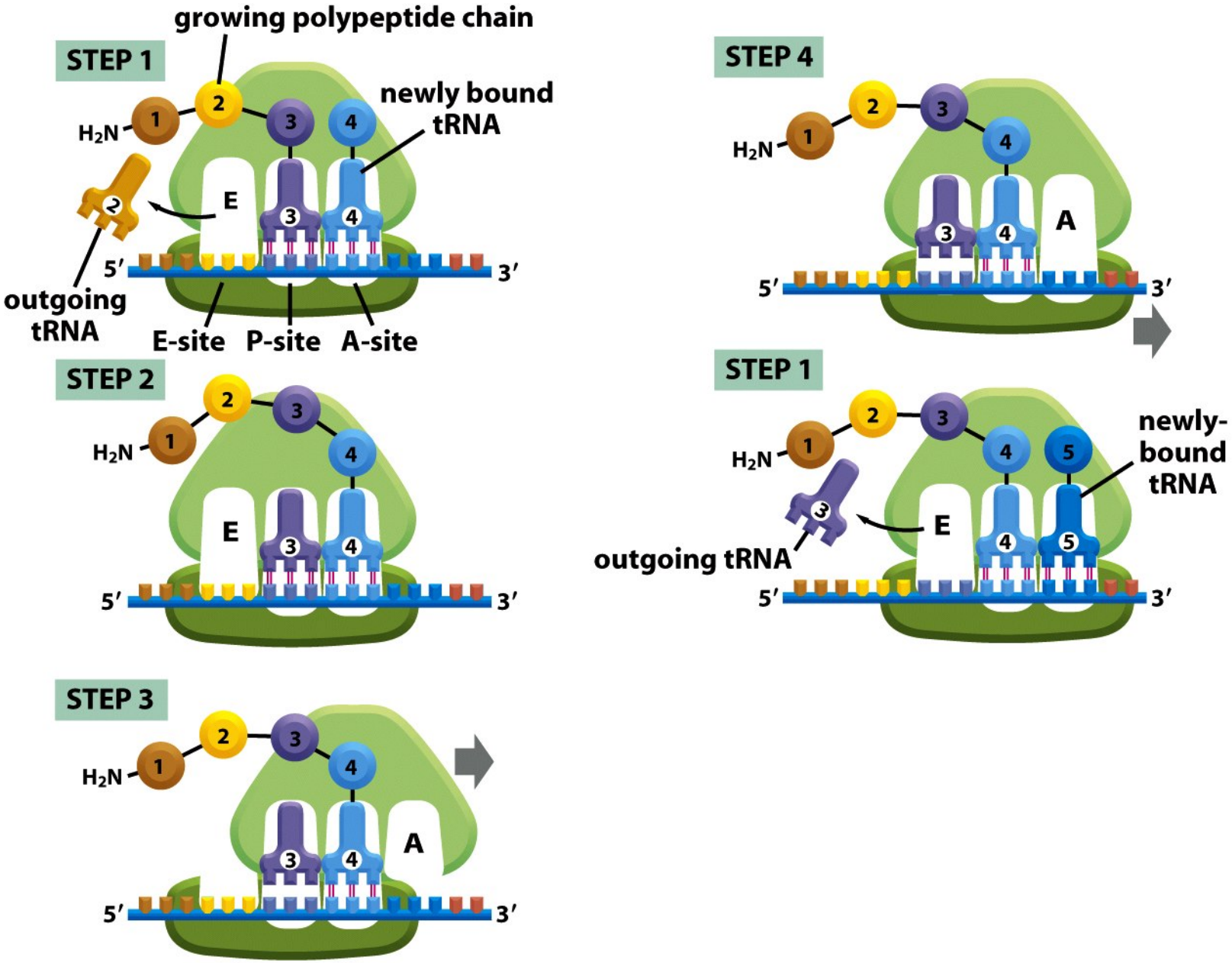



Figure 6-66 *Molecular Biology of the Cell* (© Garland Science 2008)

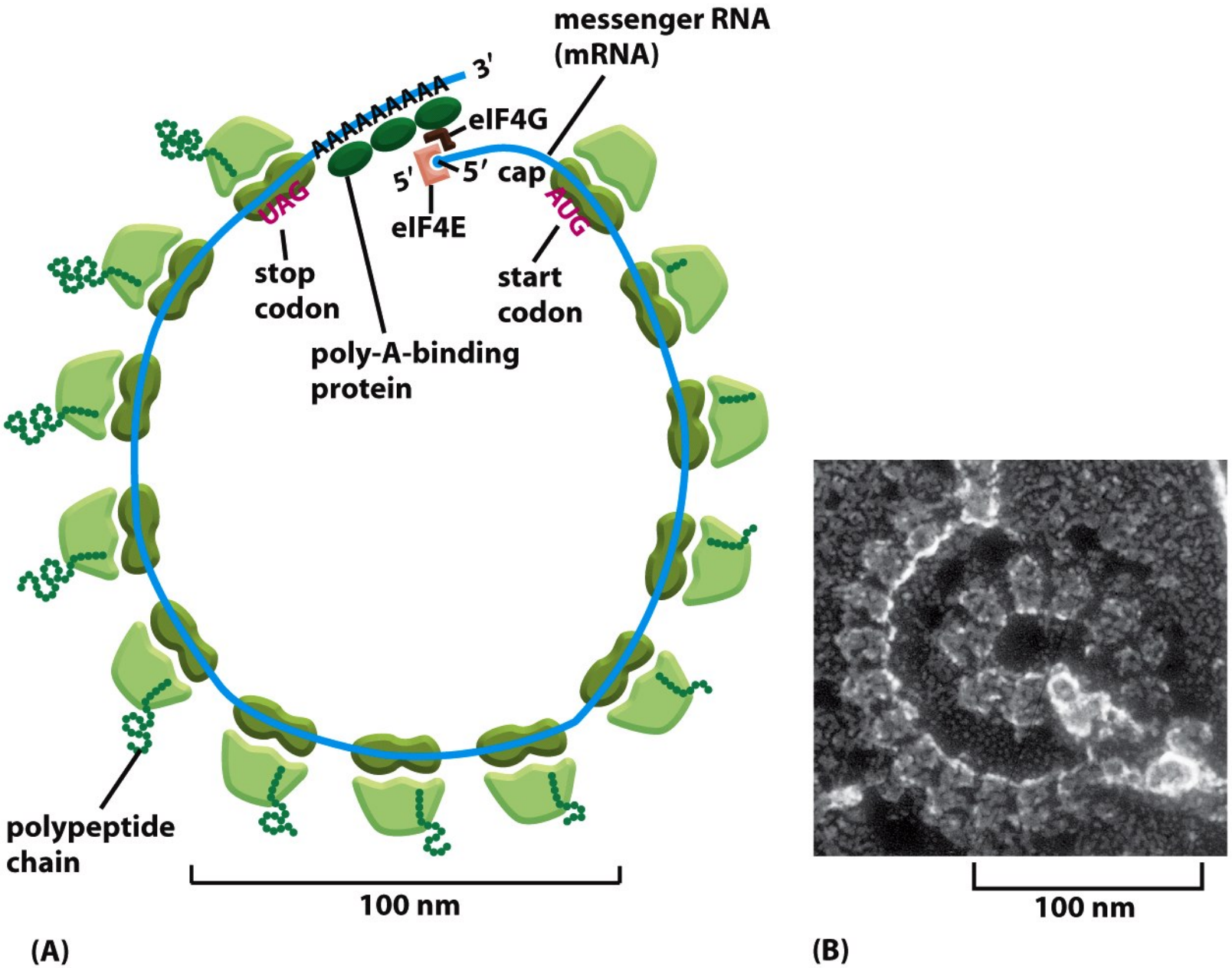



Figure 6-76 *Molecular Biology of the Cell* (© Garland Science 2008)

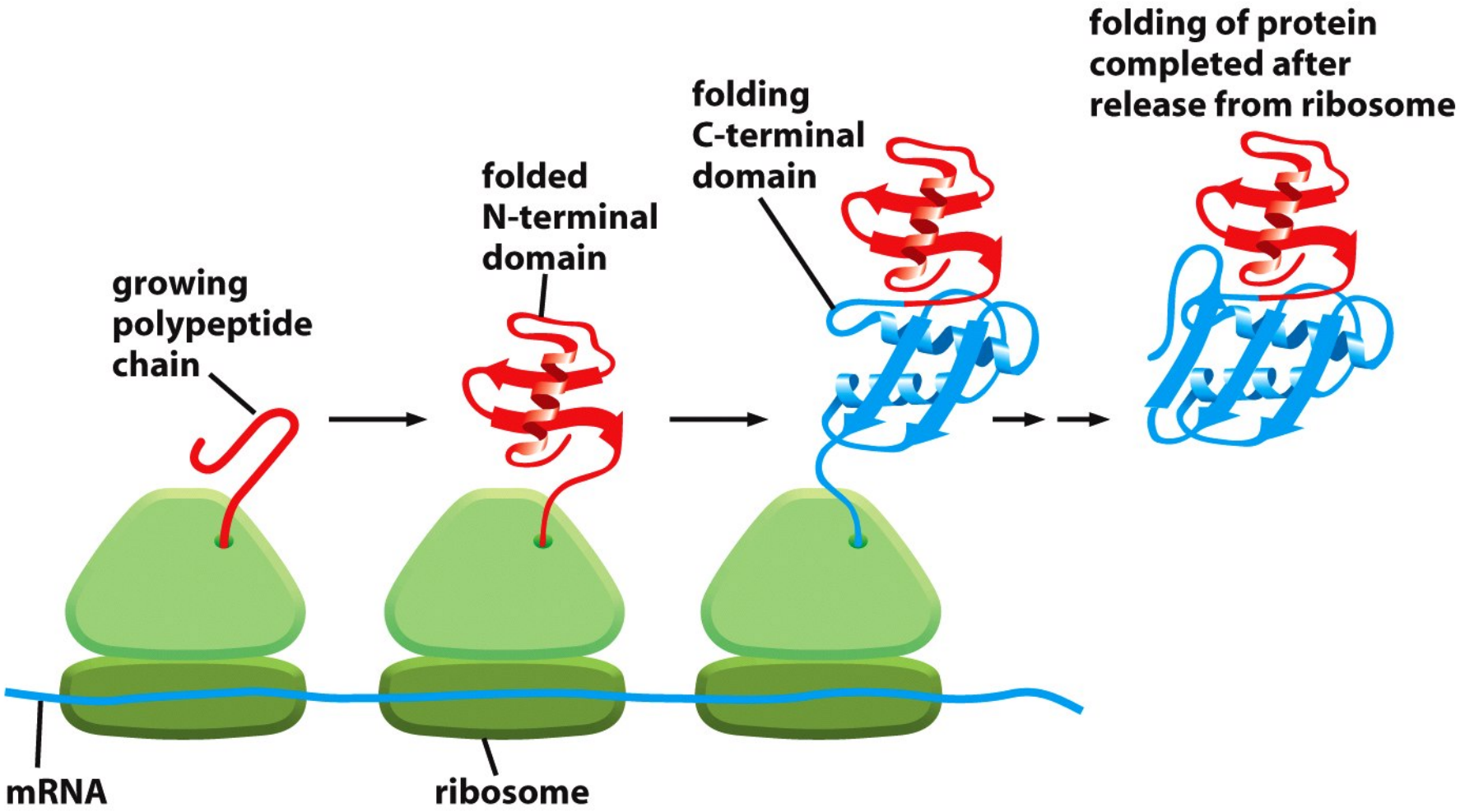



Figure 6-84 *Molecular Biology of the Cell* (© Garland Science 2008)

**Table 6–4 Inhibitors of Protein or RNA Synthesis**

| INHIBITOR | SPECIFIC EFFECT |
|---|---|
| *Acting only on bacteria* | |
| Tetracycline | blocks binding of aminoacyl-tRNA to A-site of ribosome |
| Streptomycin | prevents the transition from translation initiation to chain elongation and also causes miscoding |
| Chloramphenicol | blocks the peptidyl transferase reaction on ribosomes (step 2 in Figure 6–66) |
| Erythromycin | binds in the exit channel of the ribosome and thereby inhibits elongation of the peptide chain |
| Rifamycin | blocks initiation of RNA chains by binding to RNA polymerase (prevents RNA synthesis) |
| *Acting on bacteria and eucaryotes* | |
| Puromycin | causes the premature release of nascent polypeptide chains by its addition to the growing chain end |
| Actinomycin D | binds to DNA and blocks the movement of RNA polymerase (prevents RNA synthesis) |
| *Acting on eucaryotes but not bacteria* | |
| Cycloheximide | blocks the translocation reaction on ribosomes (step 3 in Figure 6–66) |
| Anisomycin | blocks the peptidyl transferase reaction on ribosomes (step 2 in Figure 6–66) |
| α-Amanitin | blocks mRNA synthesis by binding preferentially to RNA polymerase II |

The ribosomes of eucaryotic mitochondria (and chloroplasts) often resemble those of bacteria in their sensitivity to inhibitors. Therefore, some of these antibiotics can have a deleterious effect on human mitochondria.

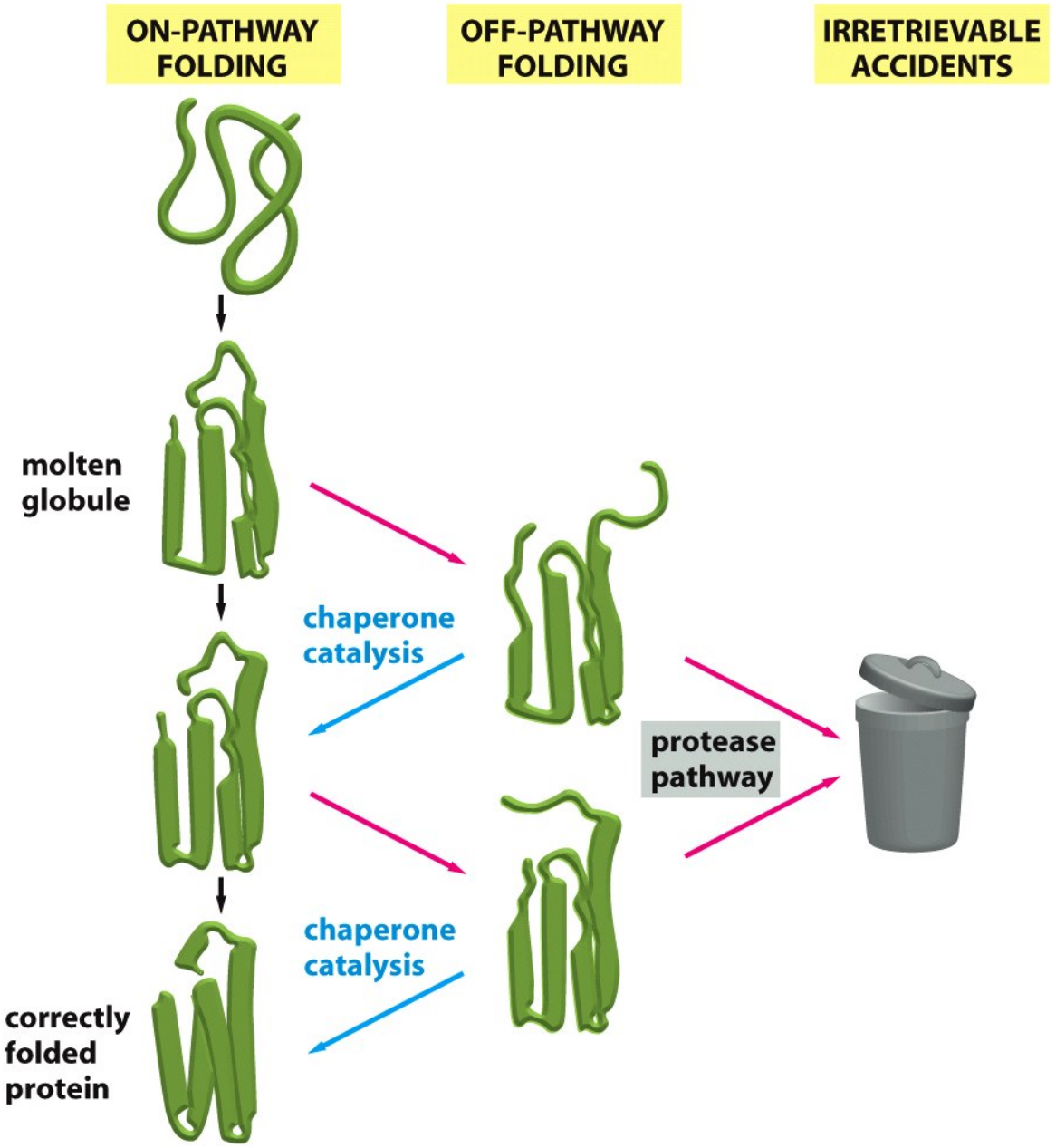



Figure 6-85 *Molecular Biology of the Cell* (© Garland Science 2008)

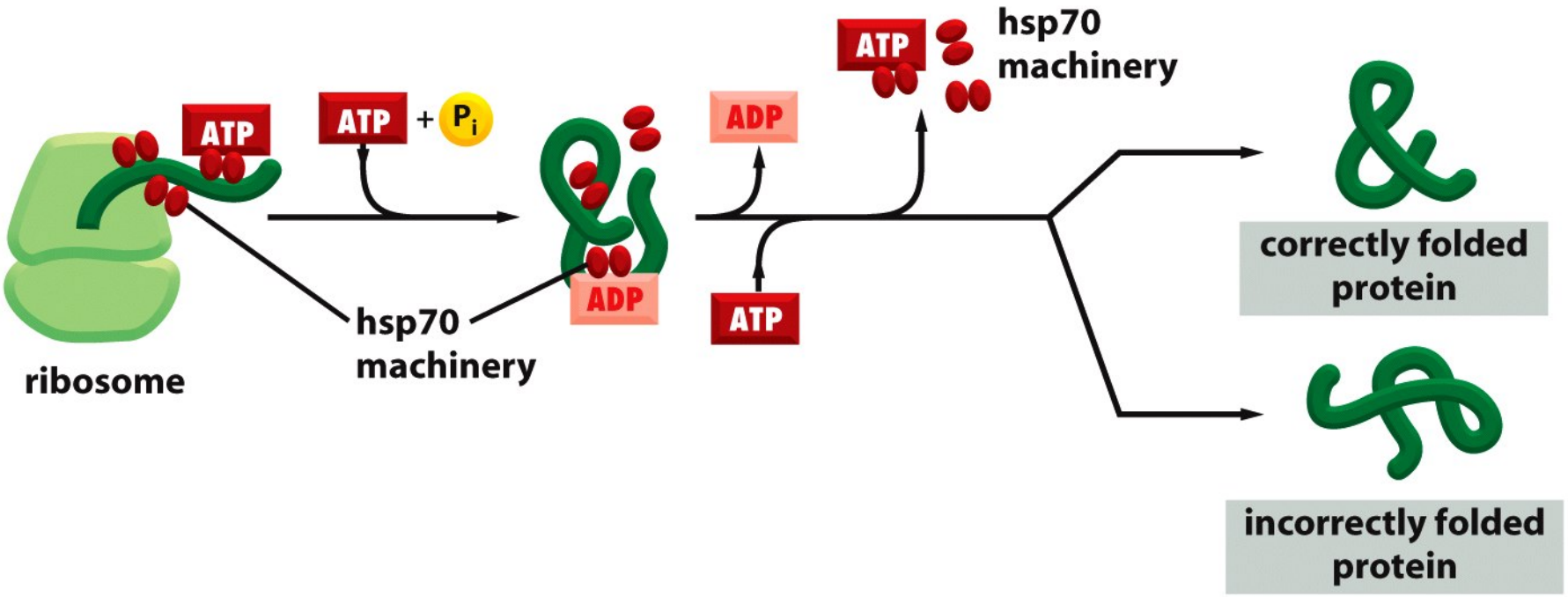



Figure 6-86 *Molecular Biology of the Cell* (© Garland Science 2008)

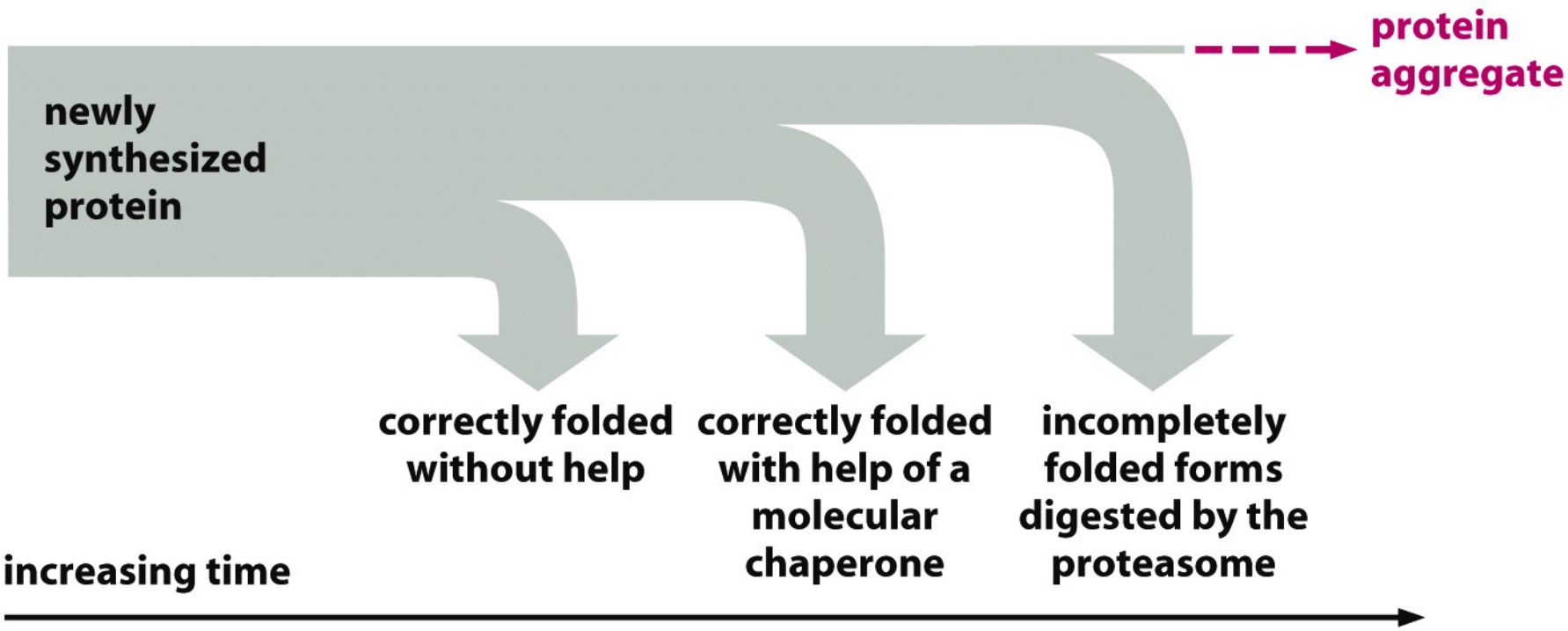



Figure 6-88 *Molecular Biology of the Cell* (© Garland Science 2008)

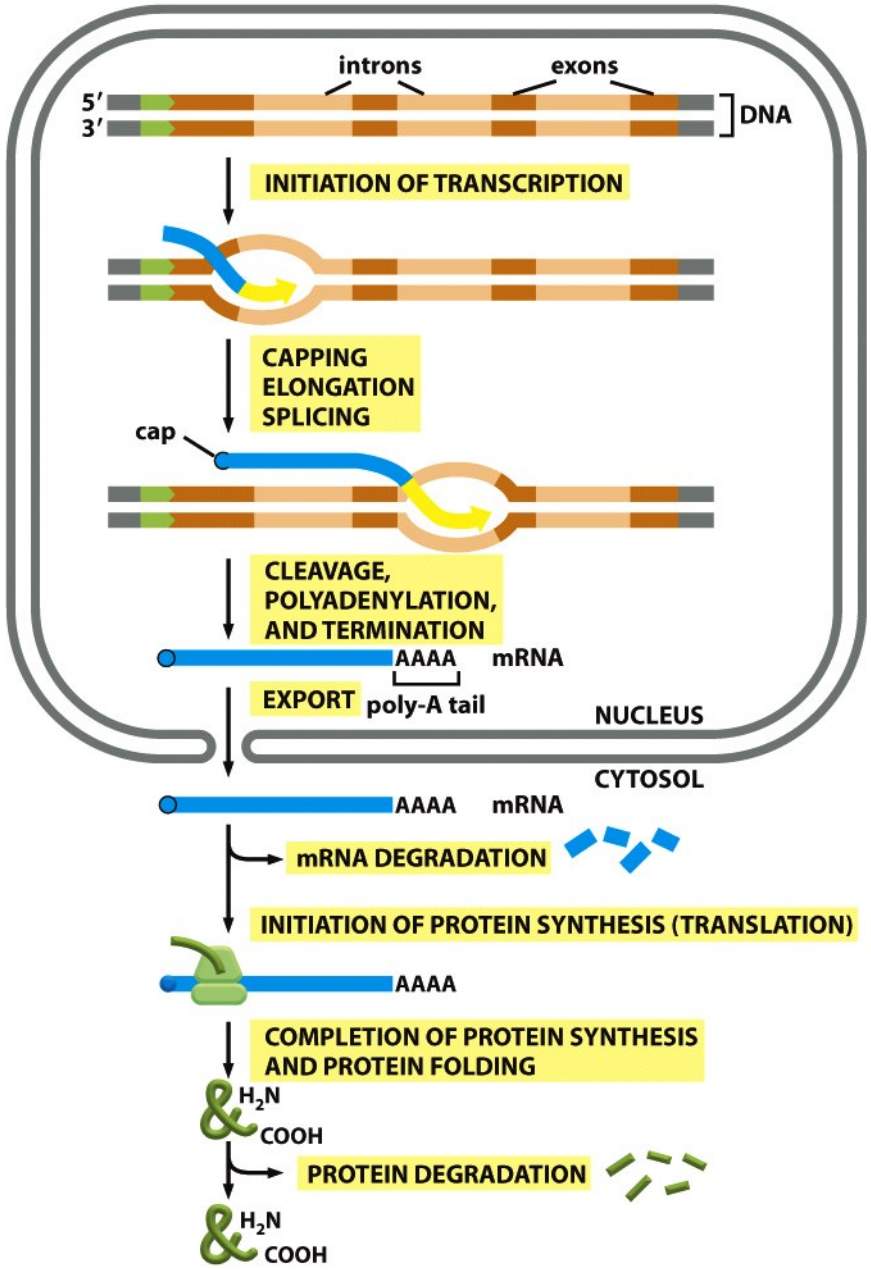



Figure 6-97 *Molecular Biology of the Cell* (© Garland Science 2008)

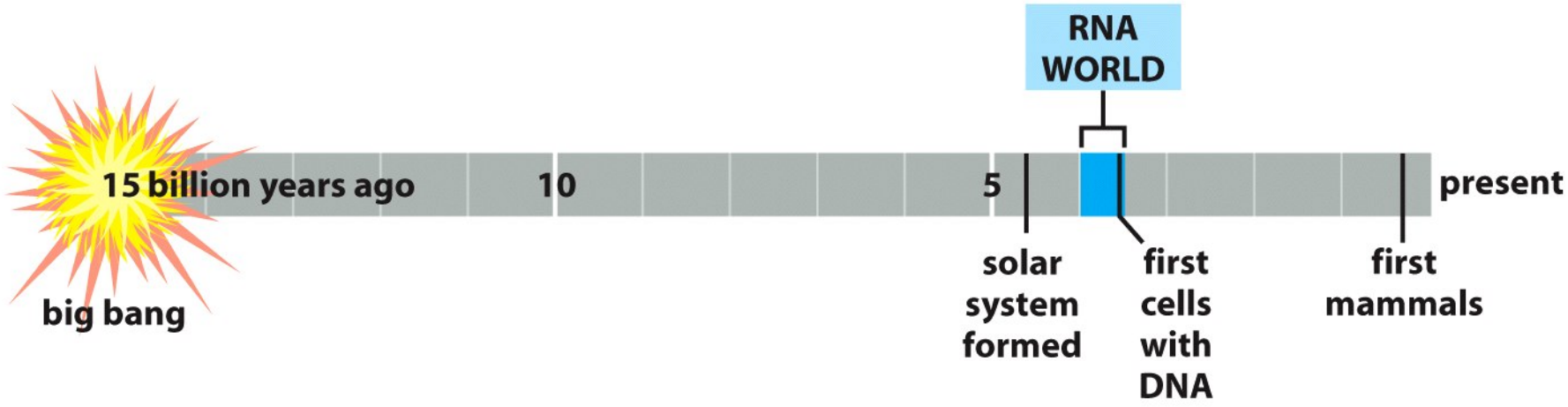



Figure 6-98 *Molecular Biology of the Cell* (© Garland Science 2008)

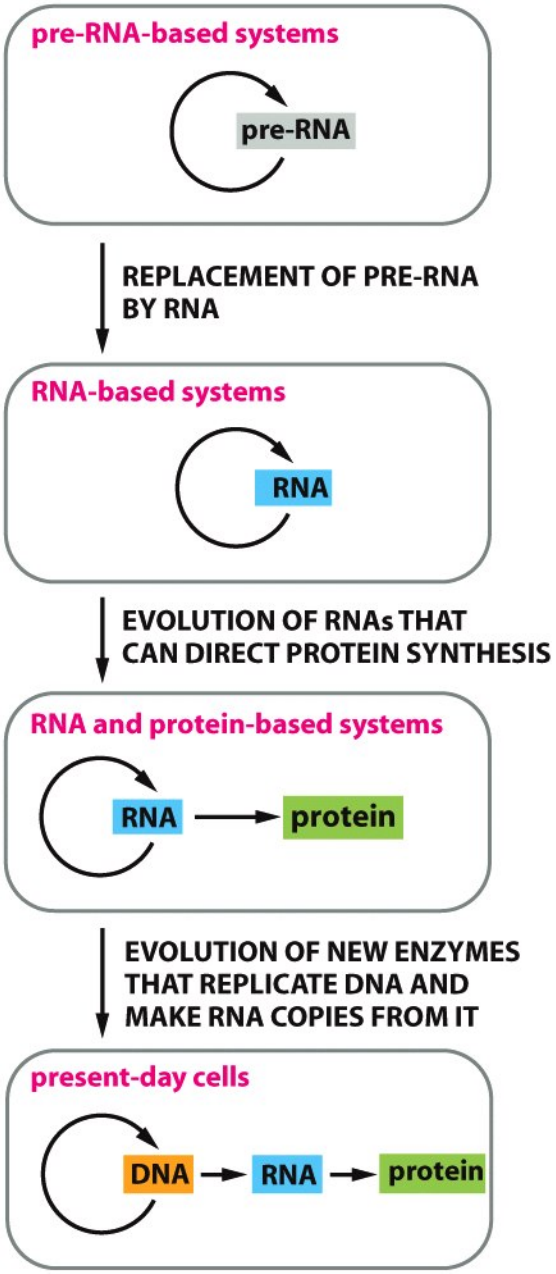



Figure 6-110 *Molecular Biology of the Cell* (© Garland Science 2008)

# Regulación de la Expresión Génica

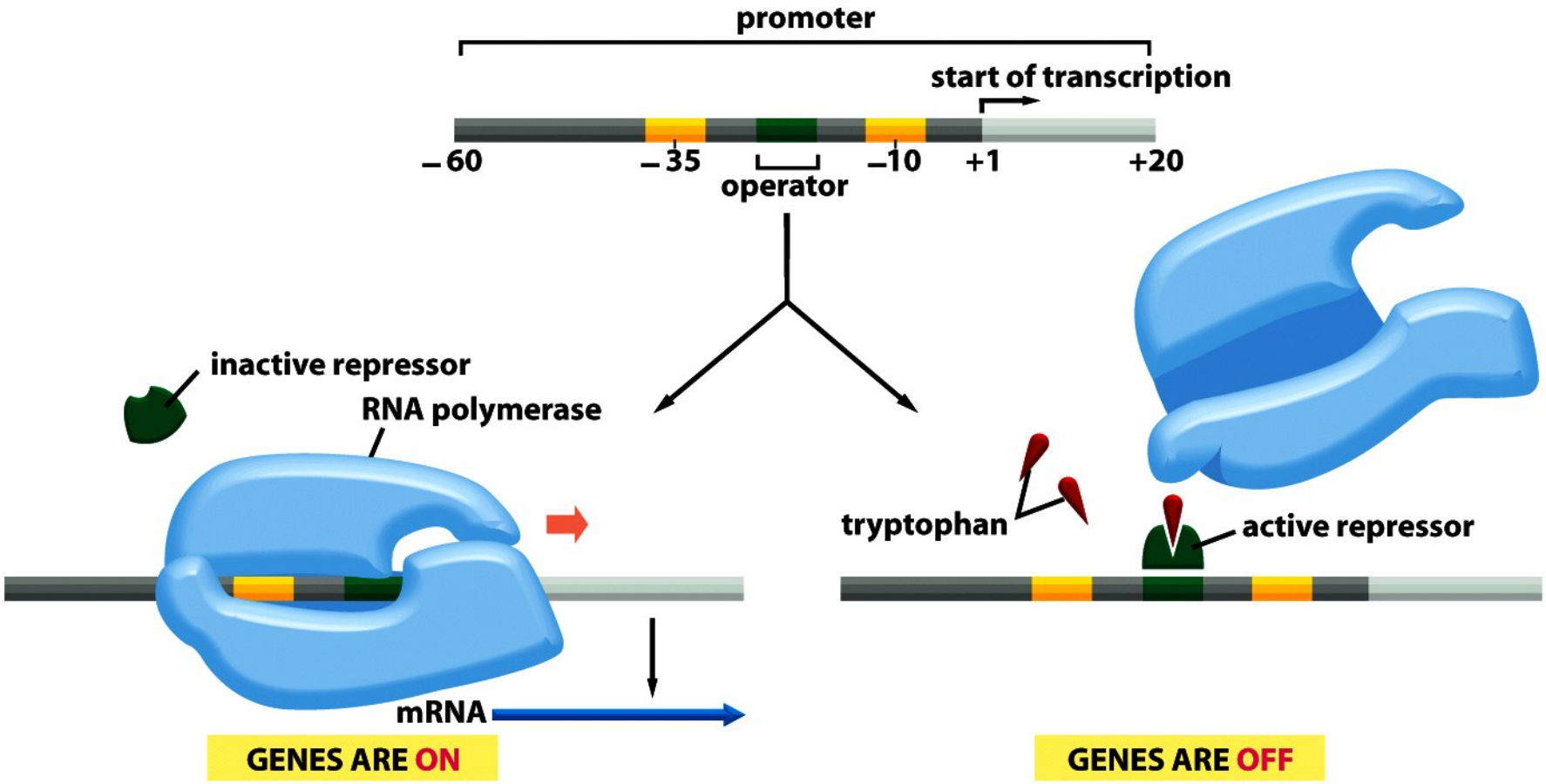



Figure 7-35 *Molecular Biology of the Cell* (© Garland Science 2008)

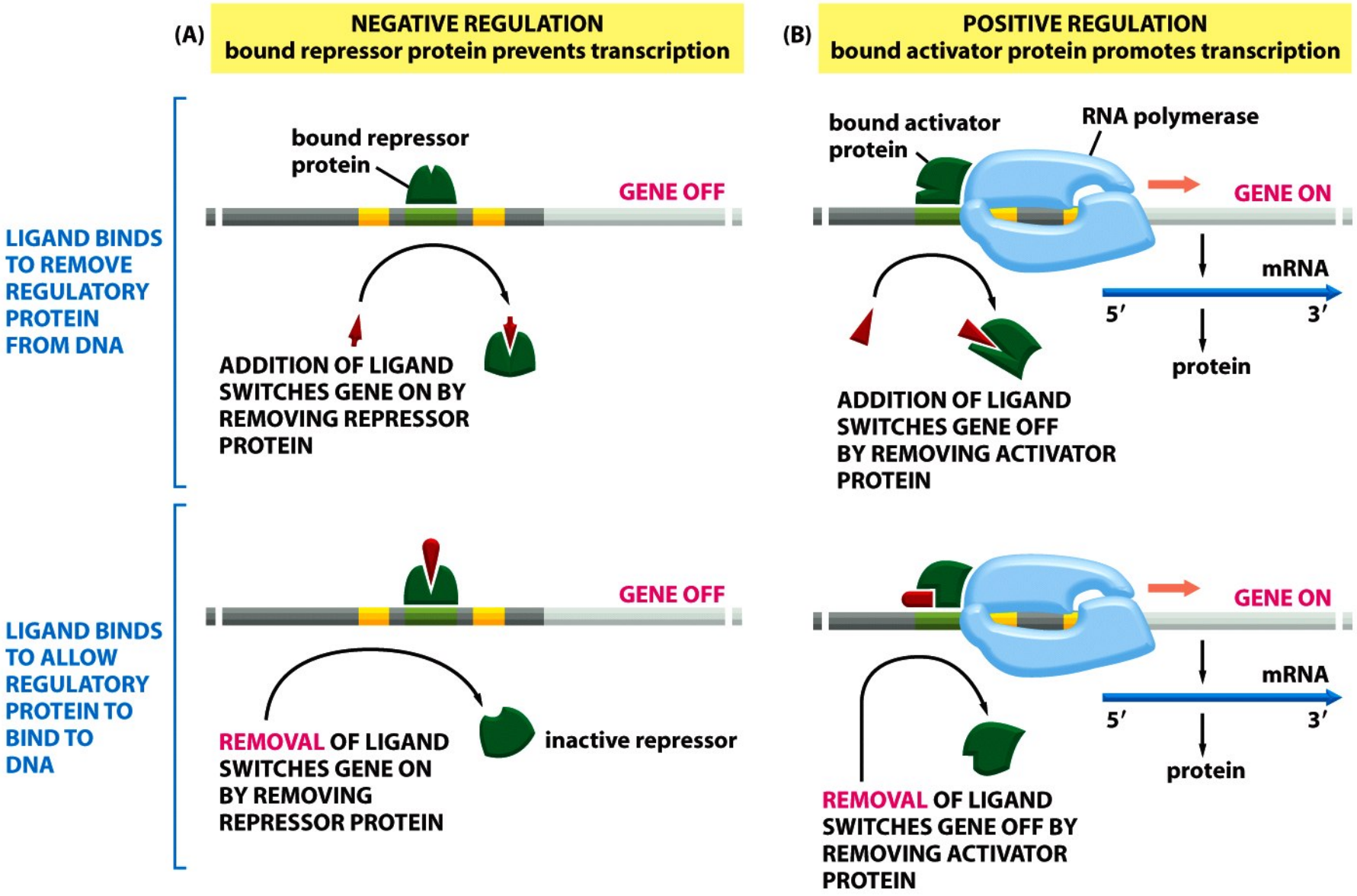



Figure 7-37 *Molecular Biology of the Cell* (© Garland Science 2008)

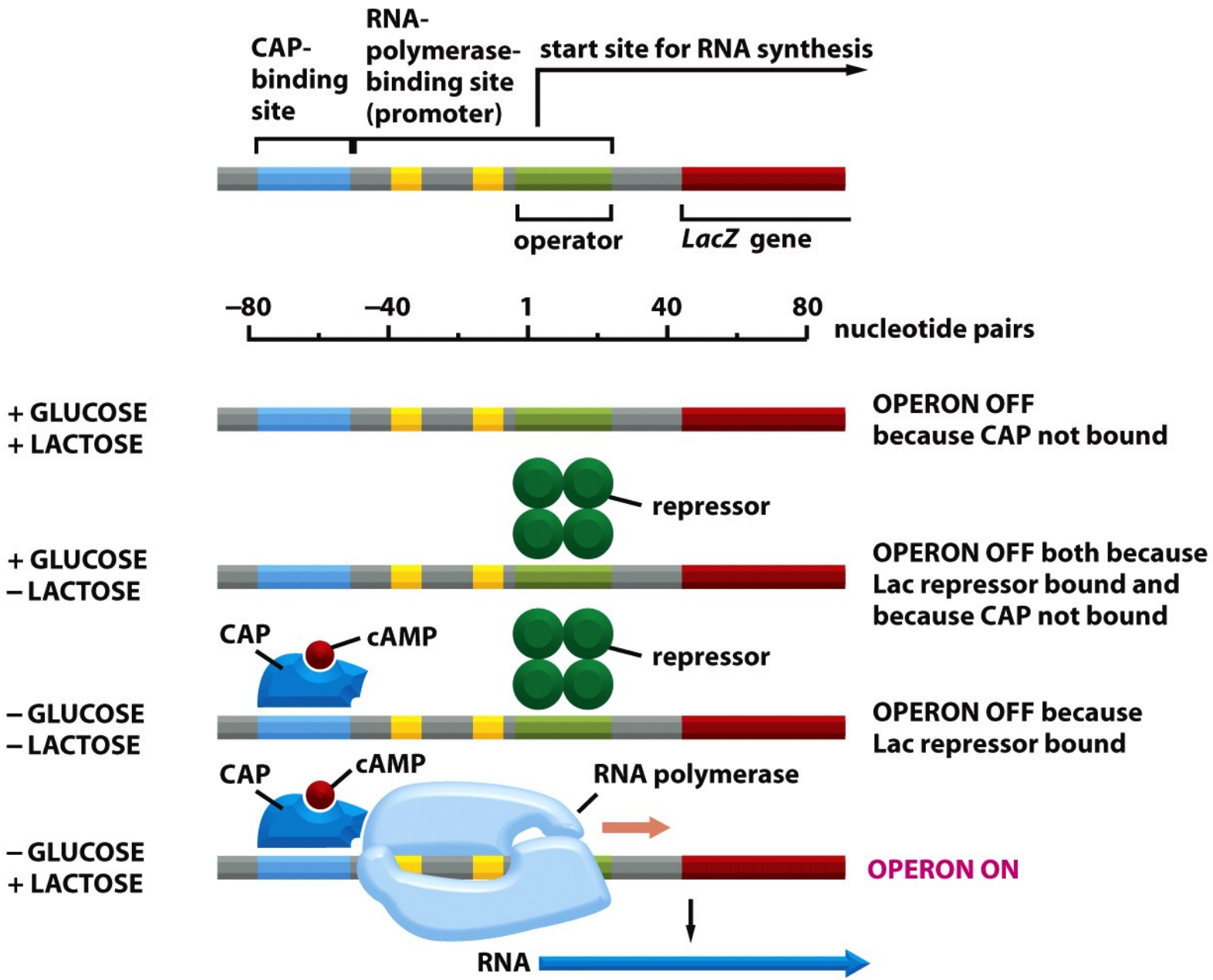



Figure 7-39 *Molecular Biology of the Cell* (© Garland Science 2008)

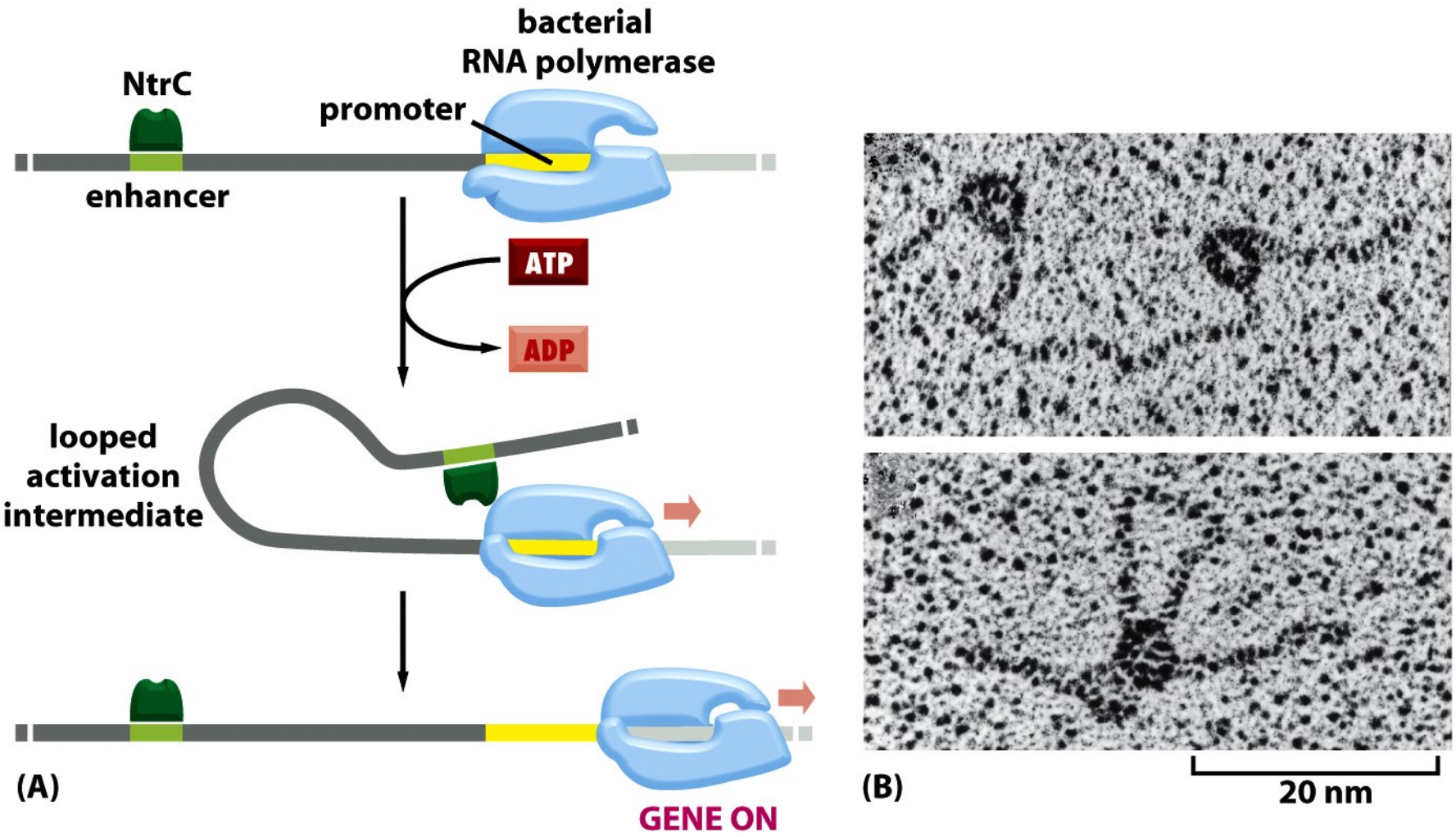



Figure 7-42 *Molecular Biology of the Cell* (© Garland Science 2008)

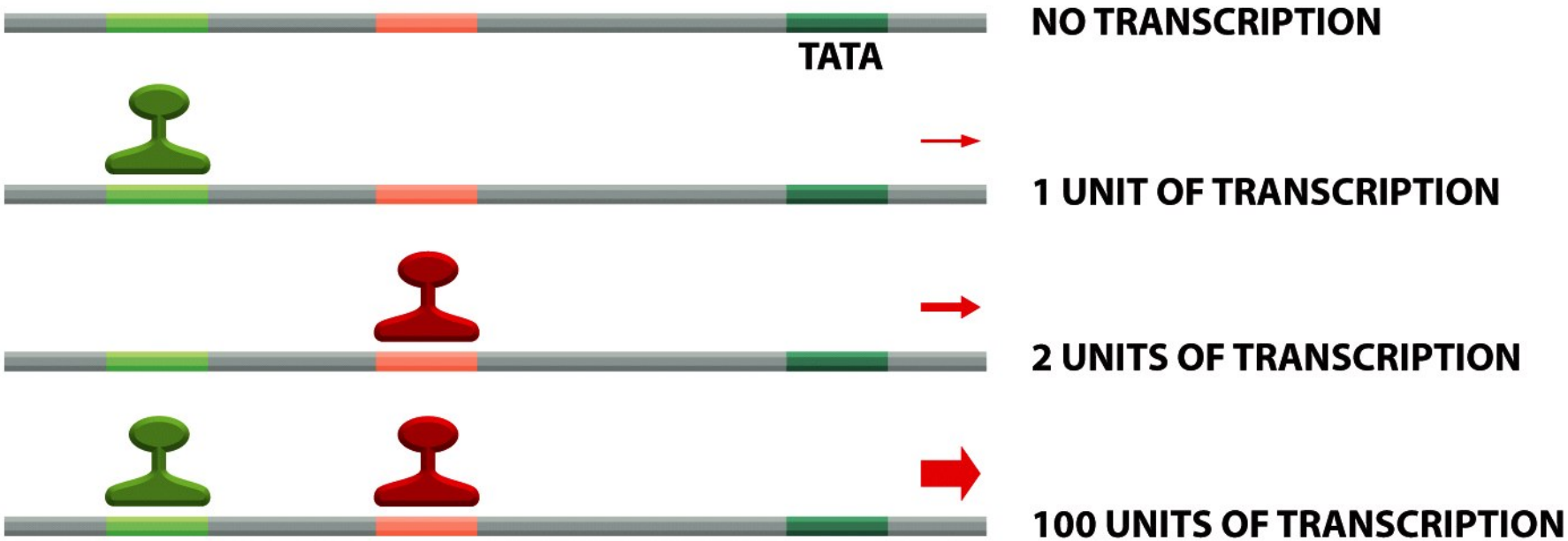



Figure 7-48 *Molecular Biology of the Cell* (© Garland Science 2008)

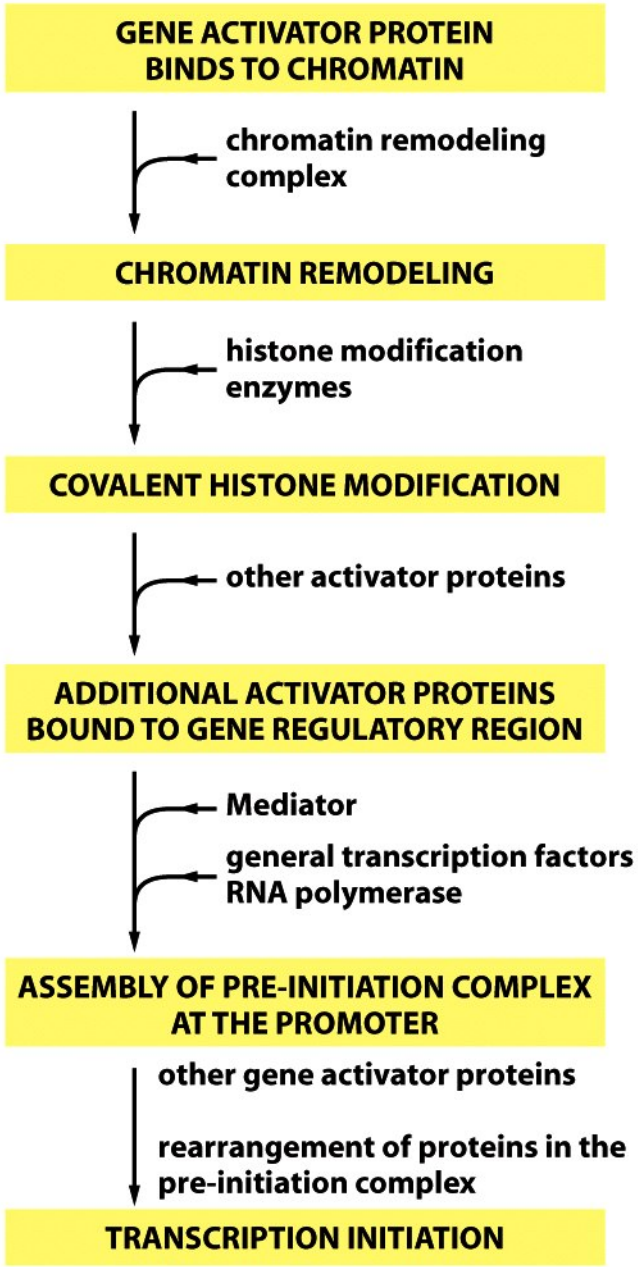



Figure 7-49 *Molecular Biology of the Cell* (© Garland Science 2008)

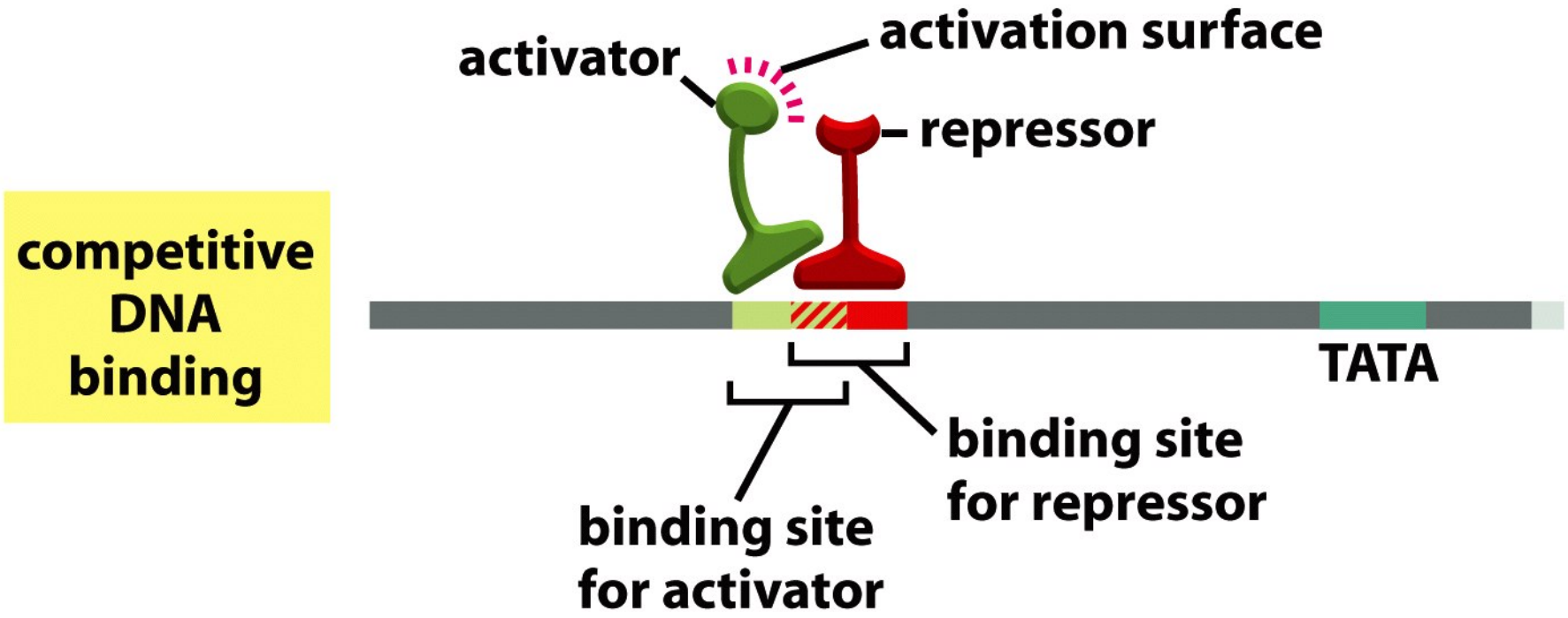



Figure 7-50a *Molecular Biology of the Cell* (© Garland Science 2008)

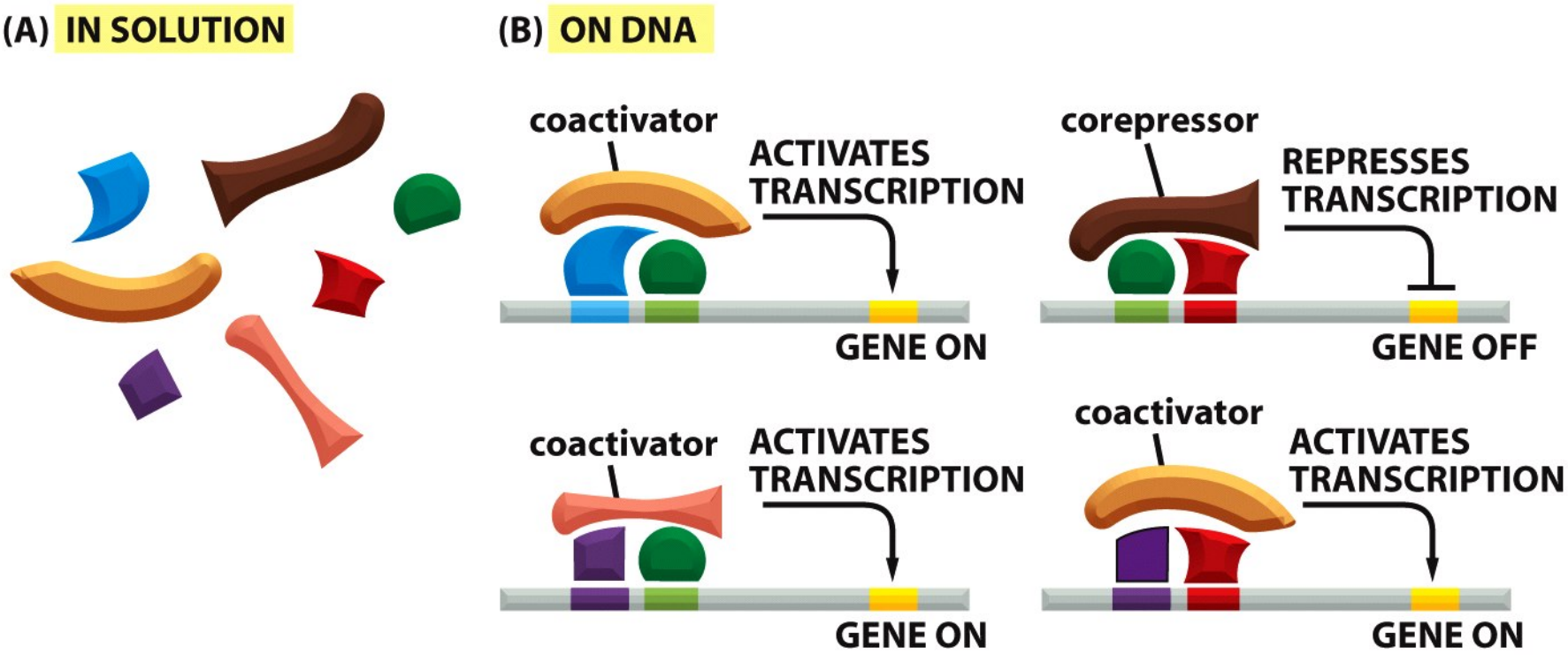



Figure 7-51 *Molecular Biology of the Cell* (© Garland Science 2008)

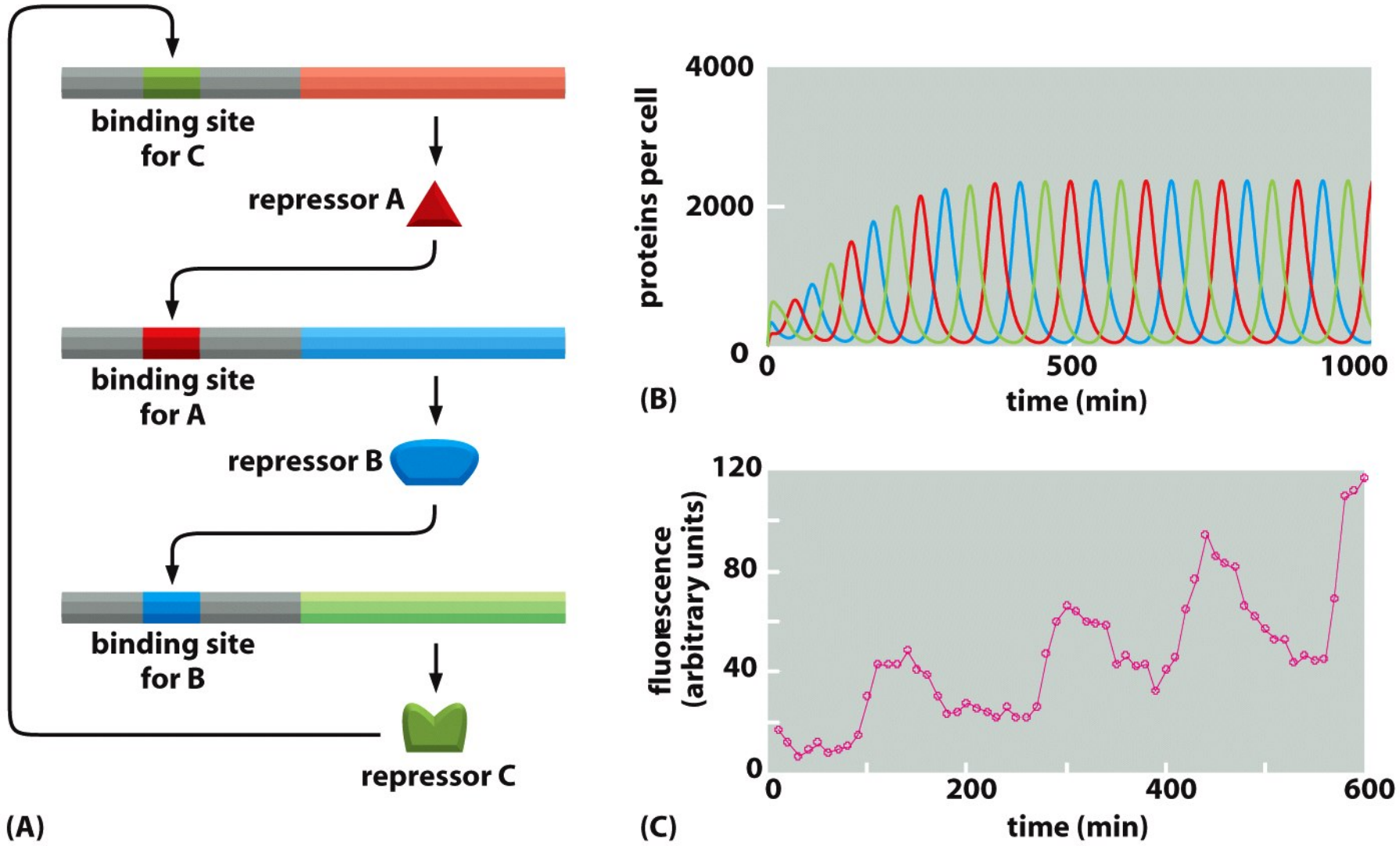



Figure 7-72 *Molecular Biology of the Cell* (© Garland Science 2008)

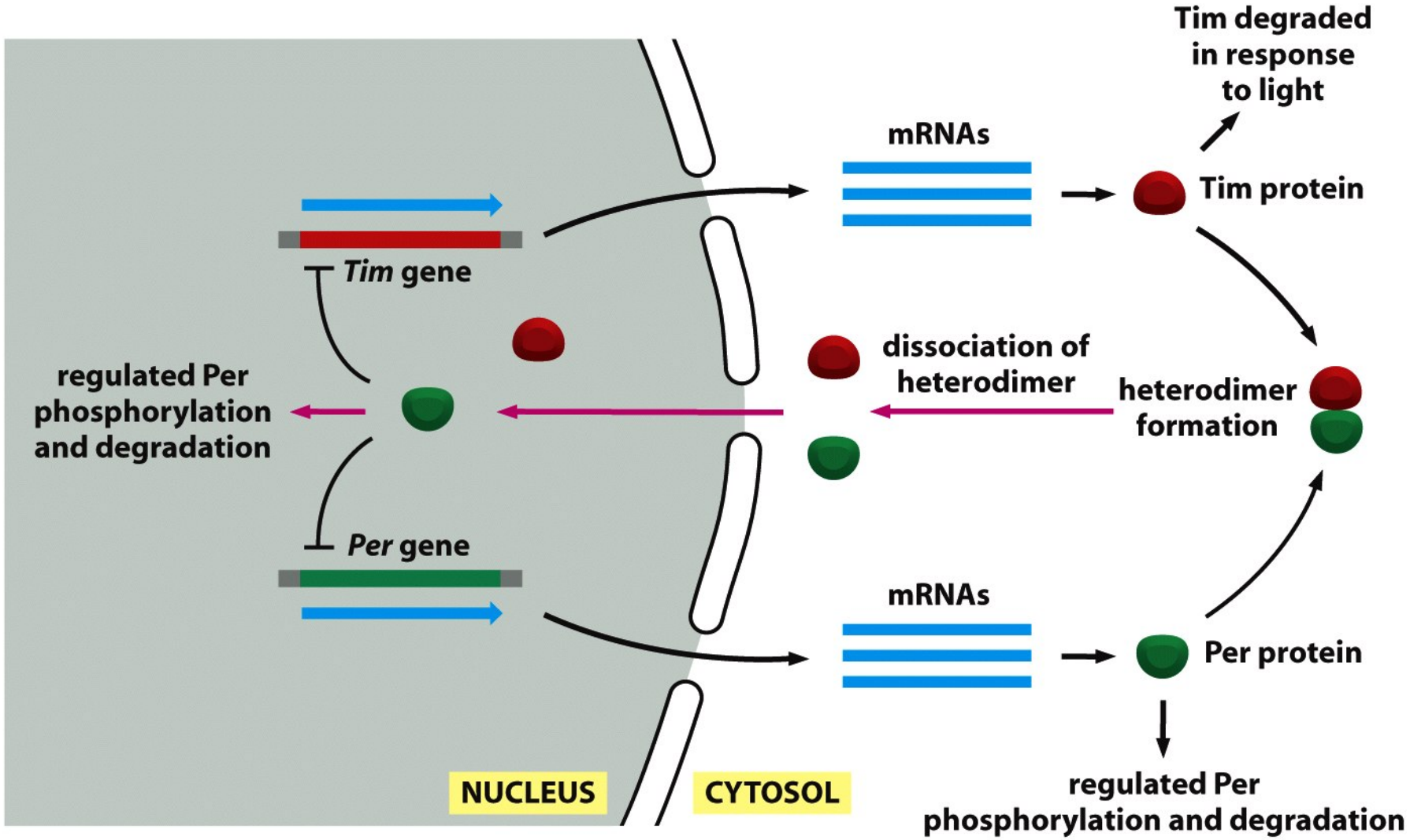
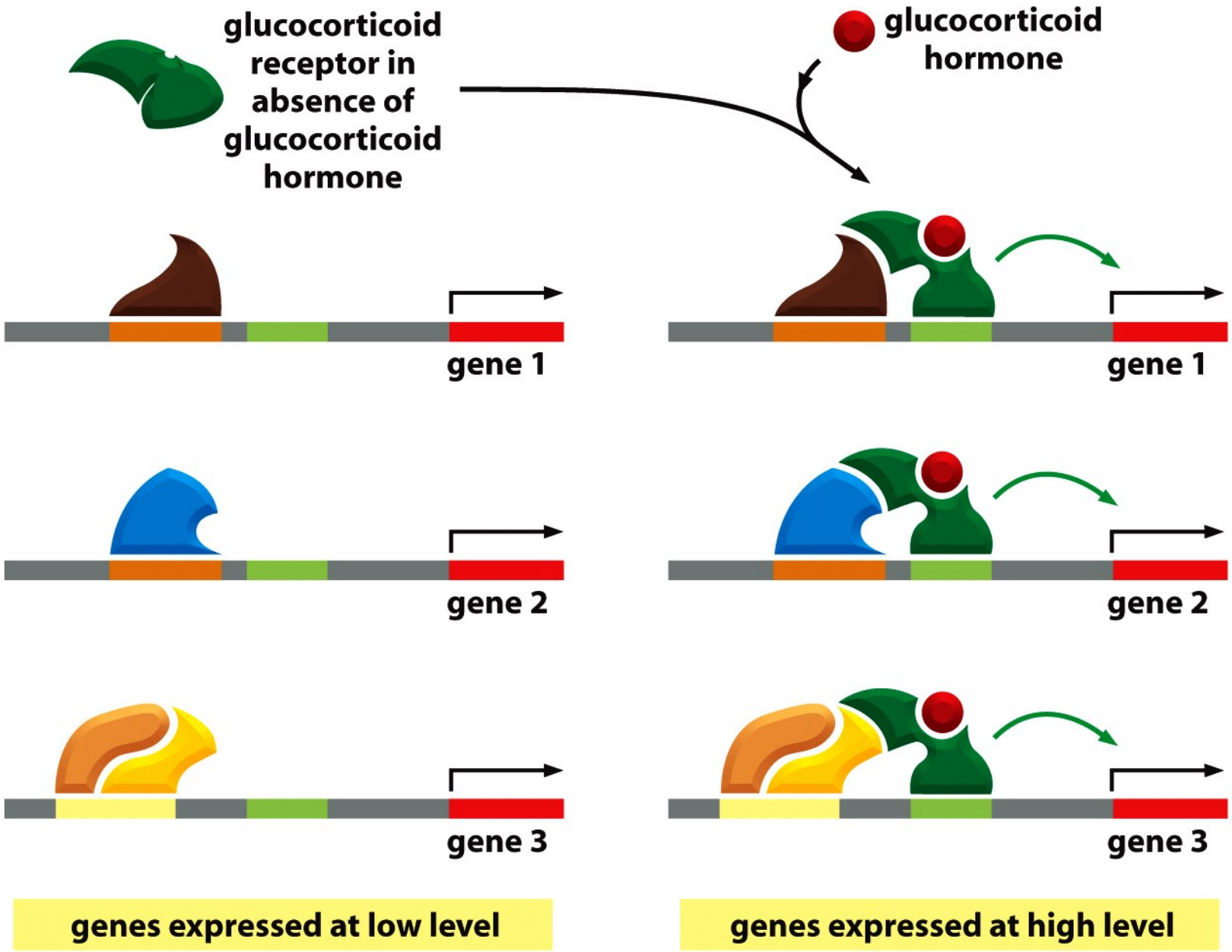



Figure 7-73 *Molecular Biology of the Cell* (© Garland Science 2008)

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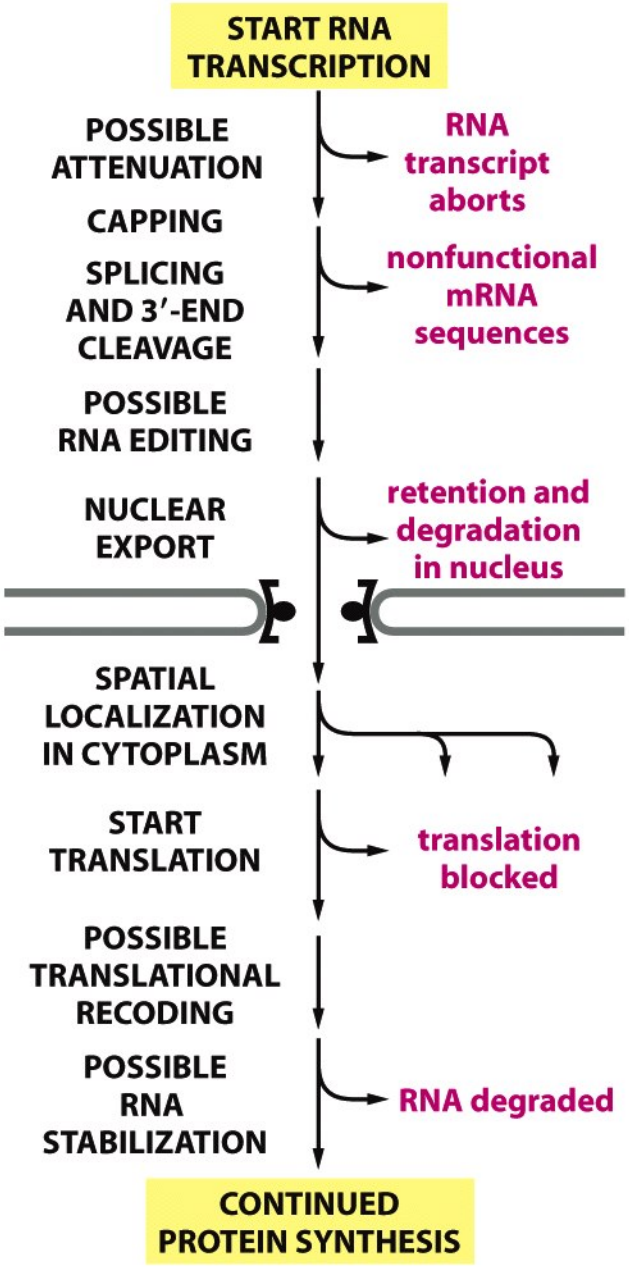



Figure 7-92 *Molecular Biology of the Cell* (© Garland Science 2008)

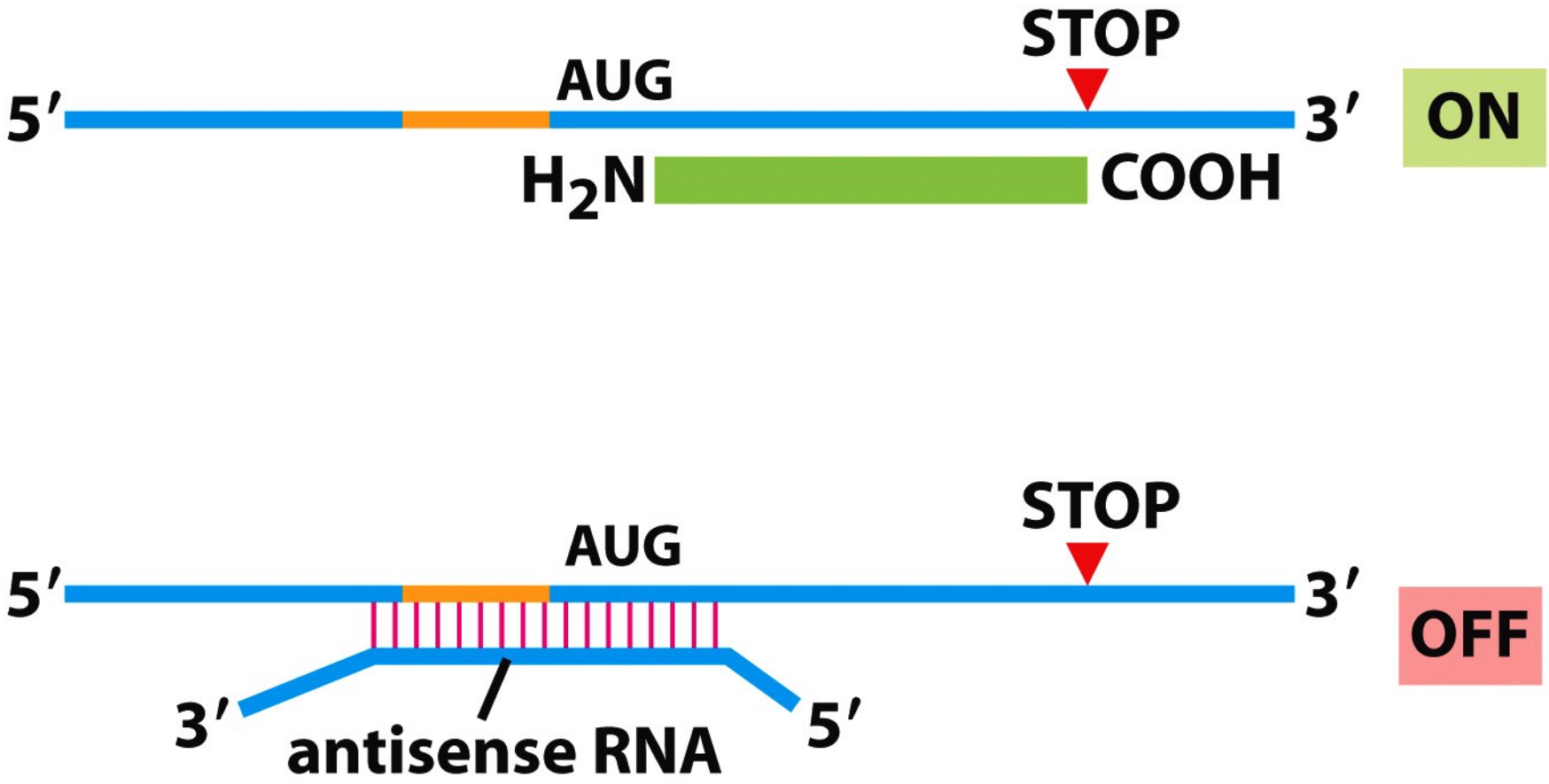
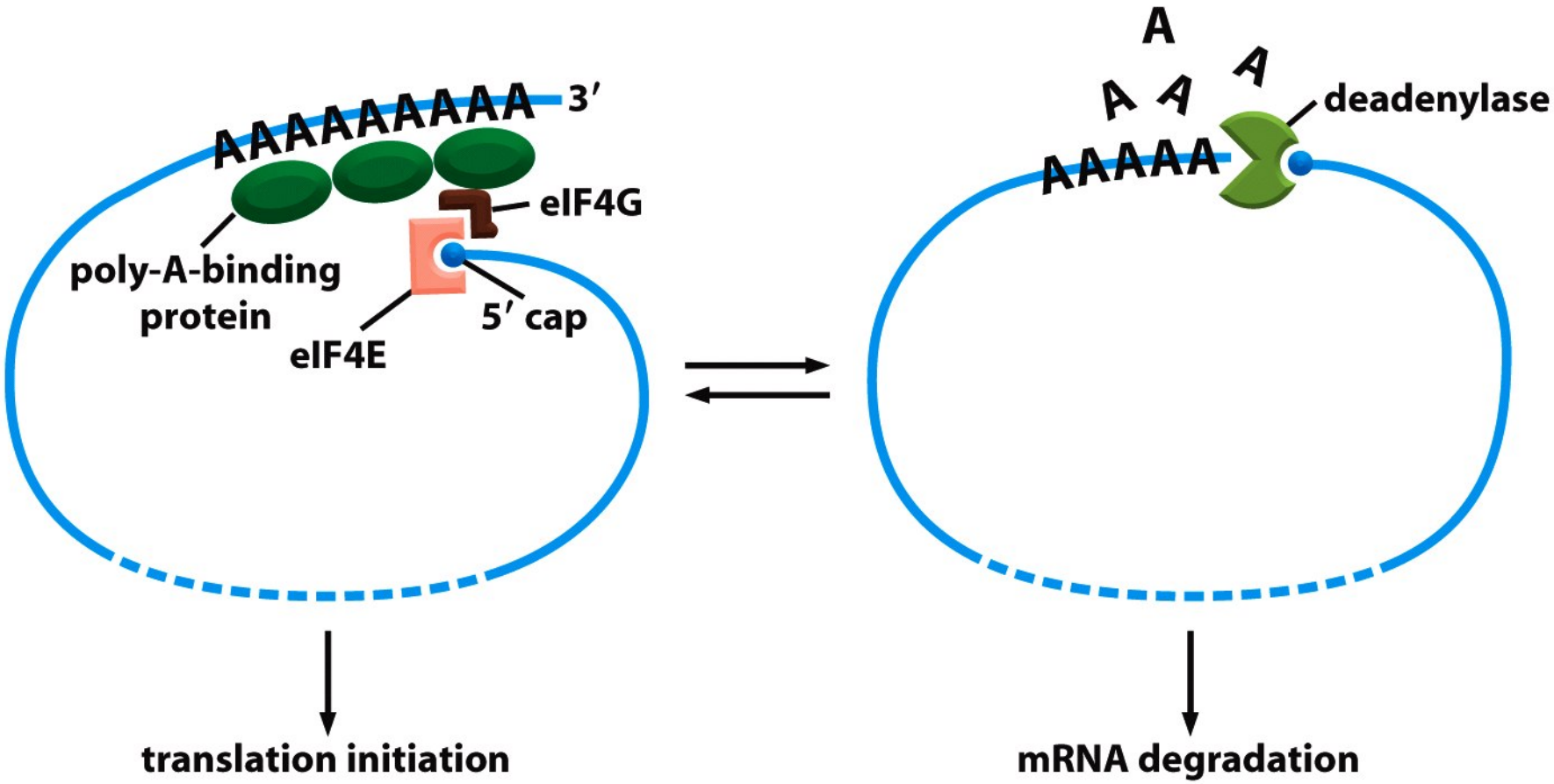



Figure 7-106d *Molecular Biology of the Cell* (© Garland Science 2008)

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