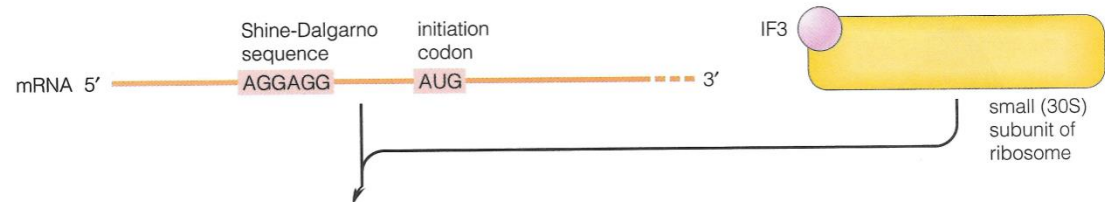
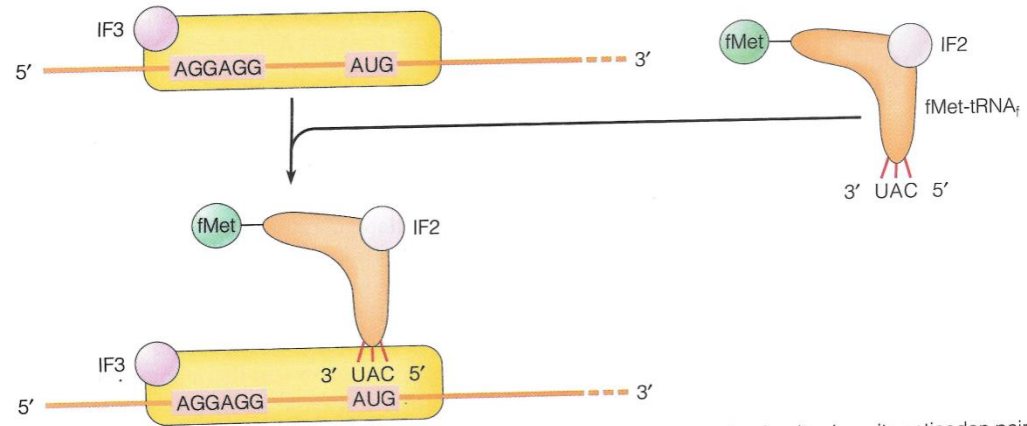


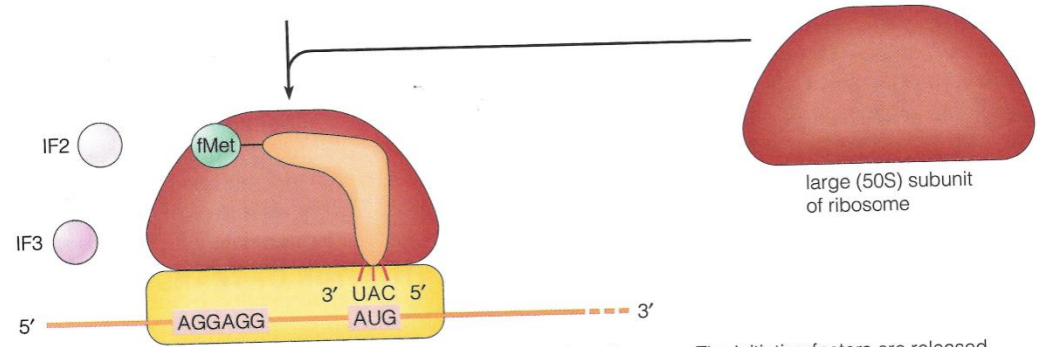
Translation (Initiation of protein synthesis in prokaryotes)



a The small ribosomal subunit binds to the initiation sequence in the mRNA with the assistance of IF3.



b An initiator tRNA charged with N-formyl methionine and bound to IF2 aligns in the small subunit, where its anticodon pairs with the initiation codon.



c The large ribosomal subunit binds to this complex to form the complete ribosome. The initiation factors are released.

Figure 4.22 Prokaryotic initiation.

Translation (Initiation of protein synthesis)

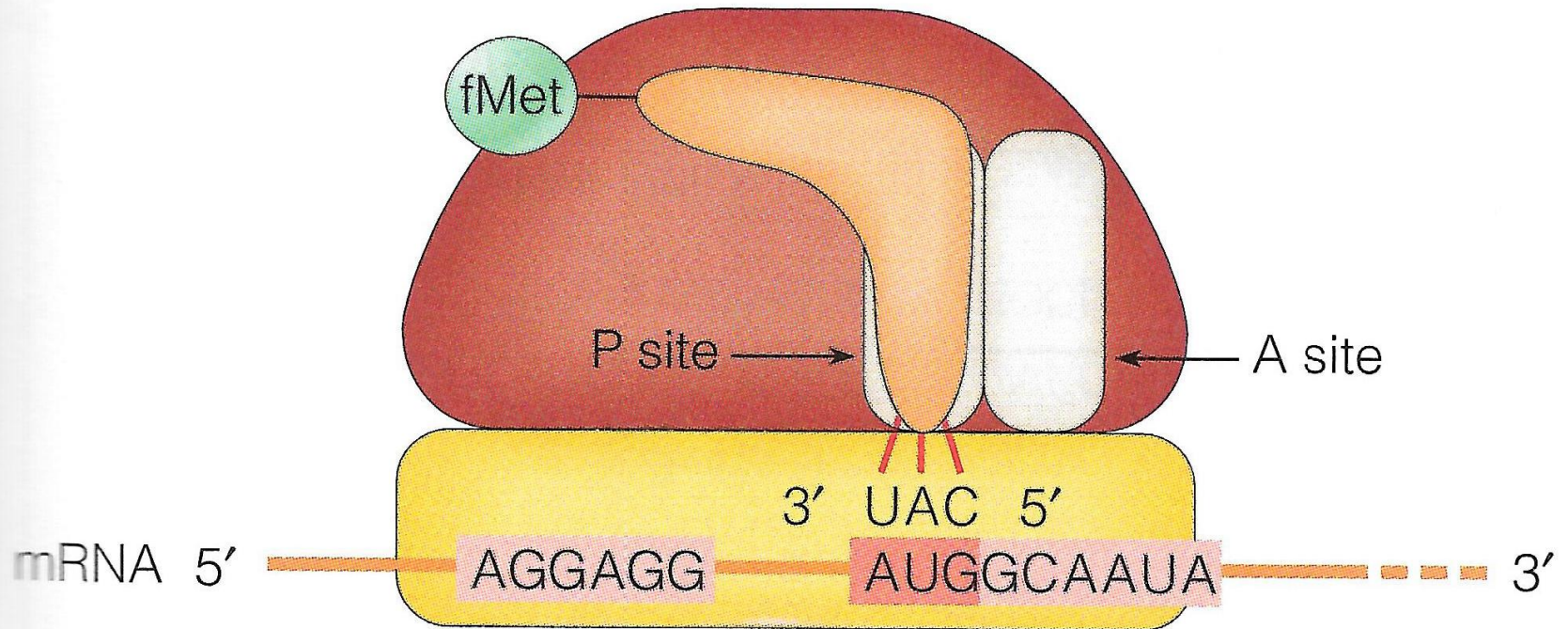
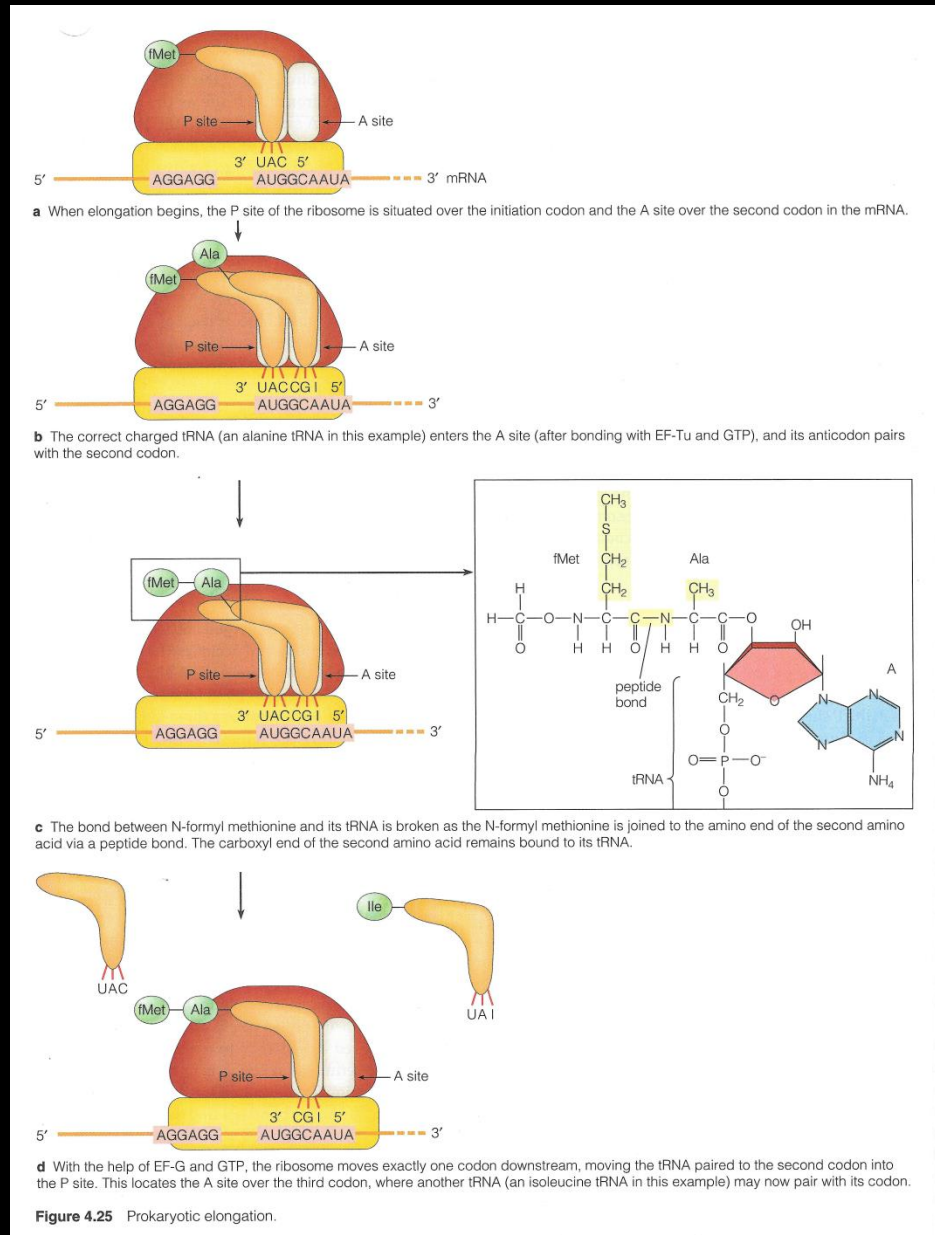
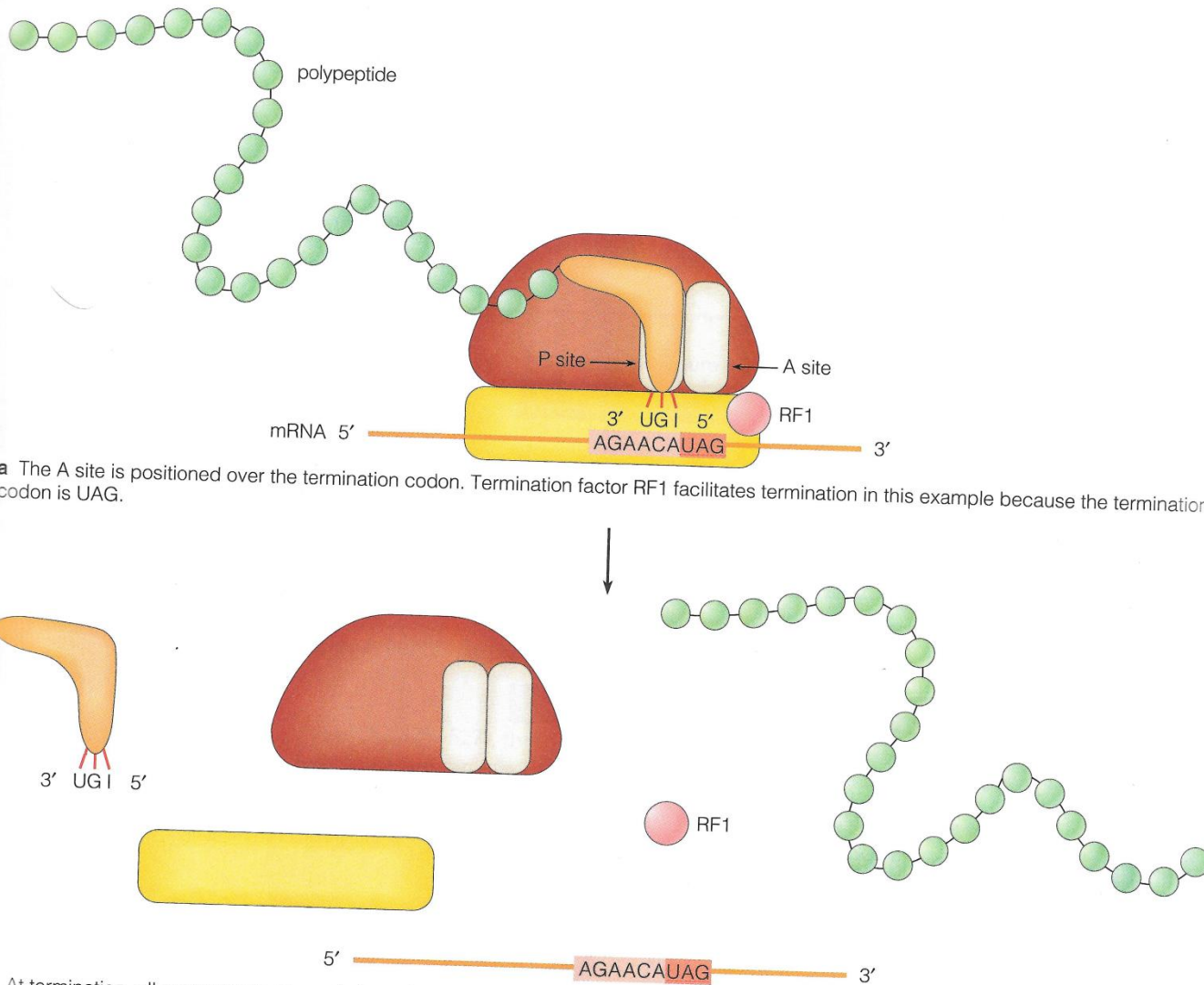


Figure 4.23 P and A sites in the ribosome. There are two sites in the ribosome that can be occupied by tRNAs, the P site and the A site.

Translation (Elongation of protein synthesis in prokaryotes)



Translation (Termination of protein synthesis)



a The A site is positioned over the termination codon. Termination factor RF1 facilitates termination in this example because the termination codon is UAG.

b At termination, all components separate from the mRNA.

Figure 4.26 Prokaryotic termination.