Cloning

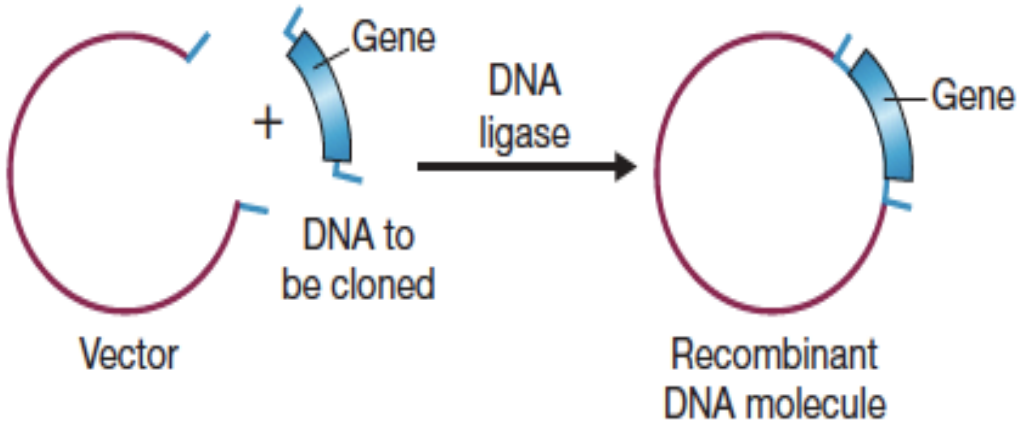


Figure 4.19

Ligation: the final step in construction of a recombinant DNA molecule.

- Adaptors

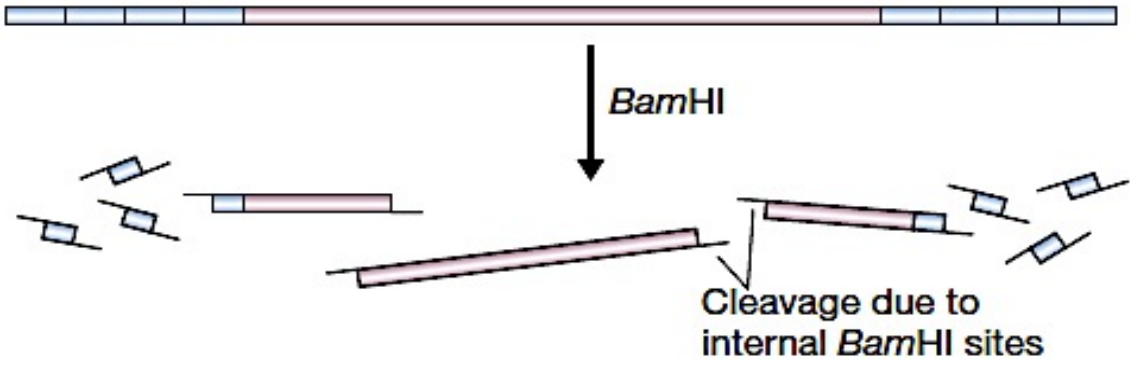
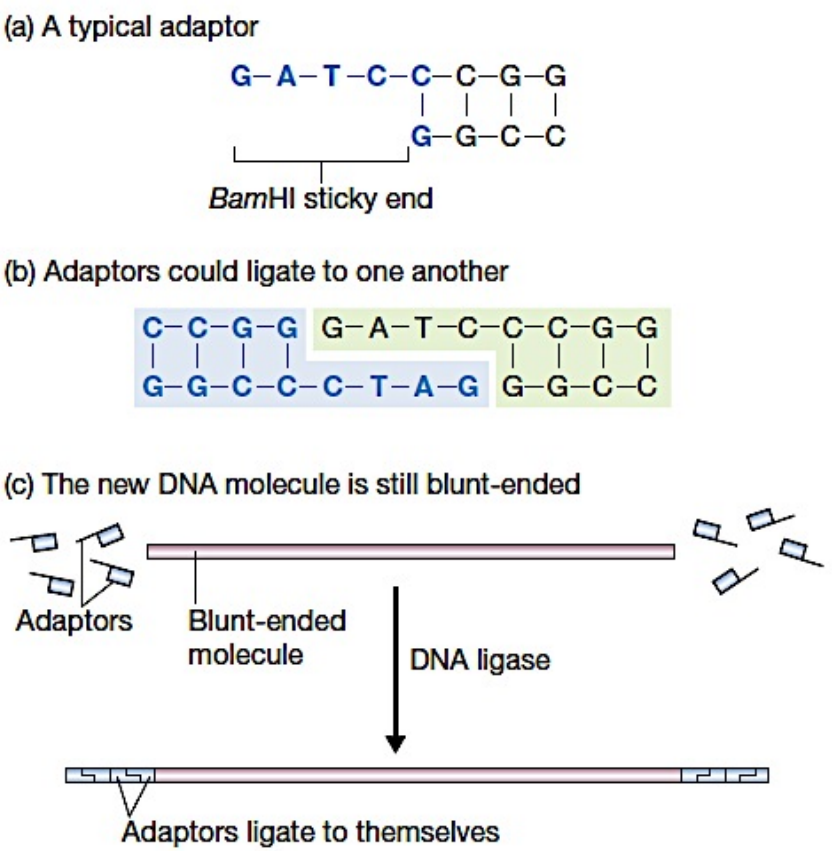


Figure 4.23

Adaptors and the potential problem with their use. (a) A typical adaptor. (b) Two adaptors could ligate to one another to produce a molecule similar to a linker, so that (c) after ligation of adaptors a blunt-ended molecule is still blunt-ended and the restriction step is still needed.



- Producing sticky ends by homopolymer tailing

Figure 4.25

The use of adaptors: (a) the actual structure of an adaptor, showing the modified 5′-OH terminus; (b) conversion of blunt ends to sticky ends through the attachment of adaptors.

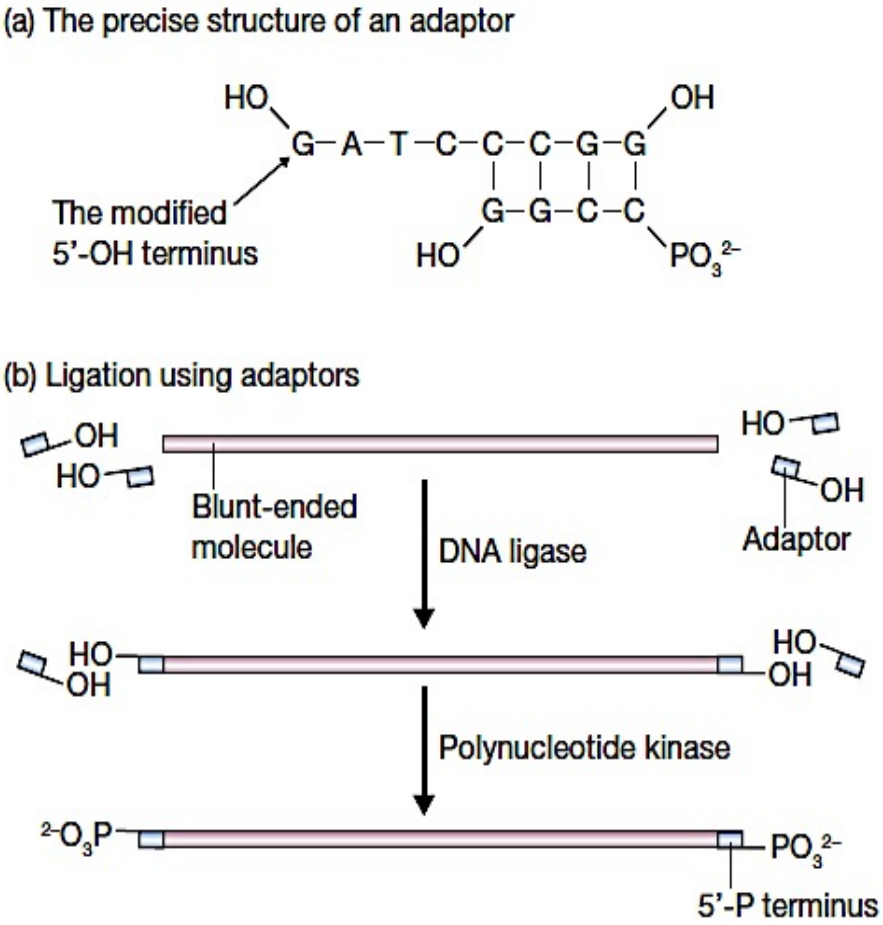


Figure 4.26

Homopolymer tailing: (a) synthesis of a homopolymer tail; (b) construction of a recombinant DNA molecule from a tailed vector plus tailed insert DNA; (c) repair of the recombinant DNA molecule.