



**FIGURE 1.** Principle of the bacterial two-hybrid system. (A) *B. pertussis* adenylate cyclase catalyzes the conversion of ATP to cAMP (T25 and T18 represent the two fragments of the catalytic domain). (B) When the two fragments are expressed as separate polypeptides, there is no enzyme activity. (C) X and Y are two polypeptides, fused to T25 and T18, that interact and reconstitute adenylate cyclase activity by bringing T25 and T18 together. (D) The catabolite activator protein (CAP) is transcriptionally inactive in the absence of cAMP. In the presence of cAMP, it binds to DNA and activates transcription of *lac* and *mal* genes.

*Protein-Protein Interactions: A Molecular Cloning Manual*, 2nd Ed., © 2005 by Cold Spring Harbor Laboratory Press, Chapter 26, Figure 1.