



**FIGURE 7.4.** Lac operon from *Escherichia coli*. This operon consists of three genes whose transcription is regulated by a single promoter. The genes encode proteins involved in utilizing lactose, including a permease (encoded by *lacY*), which brings lactose into the cell from the outside, and two enzymes (encoded by *lacZ* and *lacA*), which split lactose into glucose + galactose (see pp. 52–53).

7.4, adapted from Ptashne M. et al., *Genes and Signals*, Fig. 1.2, © 2002 CSHLP ([www.cshlpress.com](http://www.cshlpress.com)), and from Brown T.A., *Genomes, 2e*, Fig. 2.20, © 1999 Bios Scientific Publishers Ltd, by permission of Taylor & Francis Books U.K.