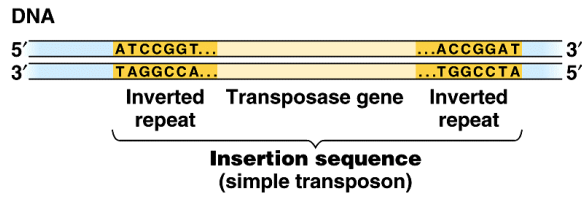


CHAPTER 18

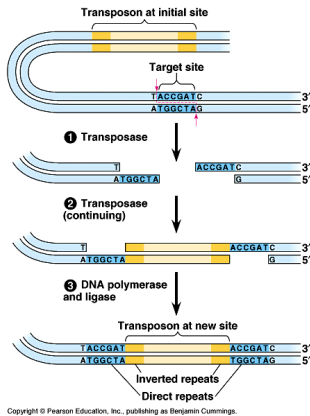
CONTROLLING GENE EXPRESSION WITH MICROBIAL MODELS

Figure 18.16 Insertion sequences, the simplest transposons



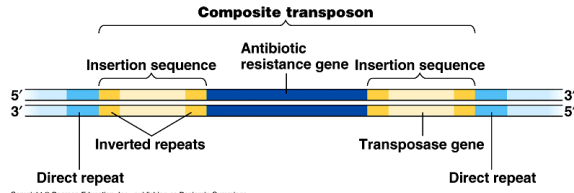
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Figure 18.17 Insertion of a transposon and creation of direct repeats



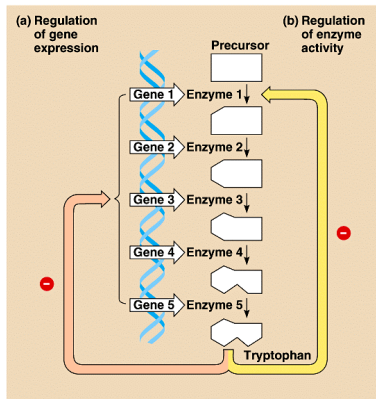
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Figure 18.18 Anatomy of a composite transposon



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Figure 18.19 Regulation of a metabolic pathway

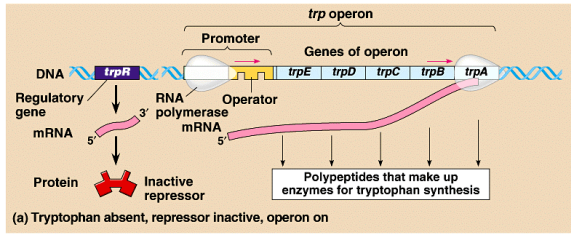


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CONTROL OF GENE EXPRESSION: BACTERIA AND THE OPERON

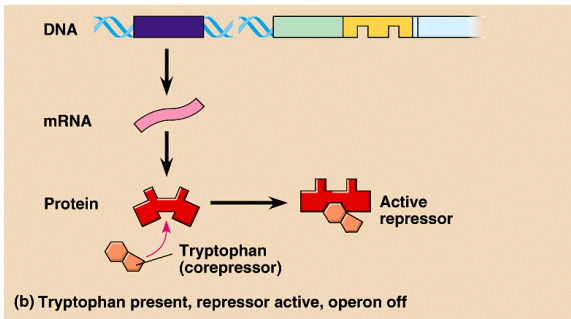
- THE LAC OPERON /LACTOSE ENZYMES
- CONTROL SEQUENCES: PROMOTER
- OPERATOR: BETWEEN PROMOTER AND ENZYME GENE: ALL GENES CALLED OPERON.
- TRANSCRIPTION TURNED OFF BY REPRESSOR. REGULATORY GENE CODES FOR REPRESSOR. WHEN LACTOSE IS GONE, SYSTEM QUILTS

Figure 18.20a The *trp* operon: regulated synthesis of repressible enzymes



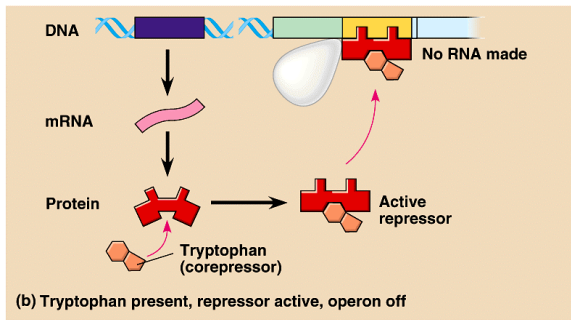
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Figure 18.20b The *trp* operon: regulated synthesis of repressible enzymes (Layer 1)



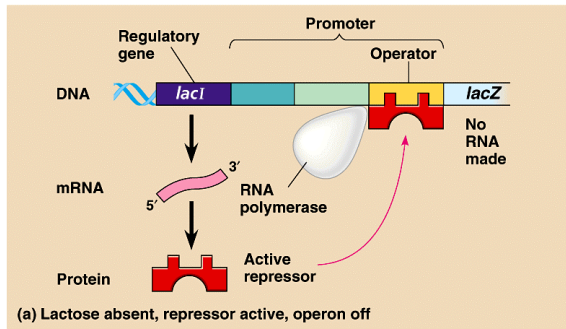
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Figure 18.20c The *trp* operon: regulated synthesis of repressible enzymes (Layer 2)



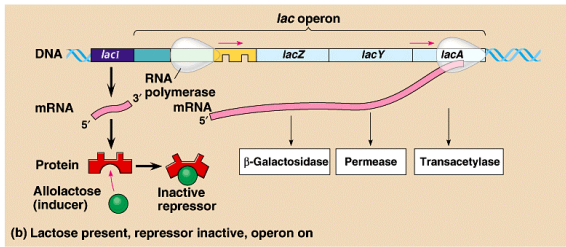
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Figure 18.21a The *lac* operon: regulated synthesis of inducible enzymes



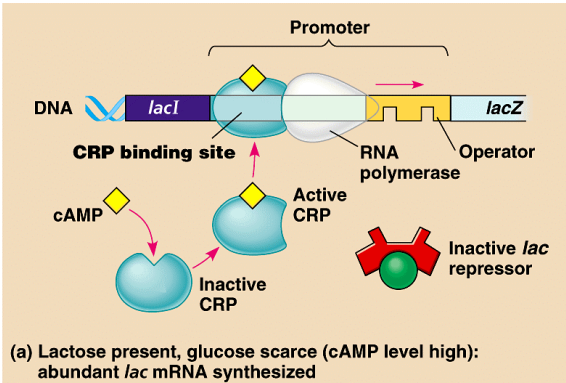
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Figure 18.21b The *lac* operon: regulated synthesis of inducible enzymes



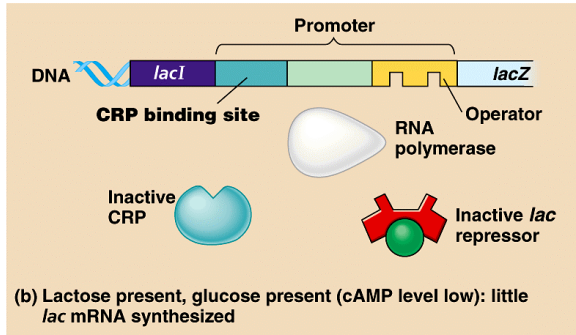
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Figure 18.22a Positive control: cAMP receptor protein



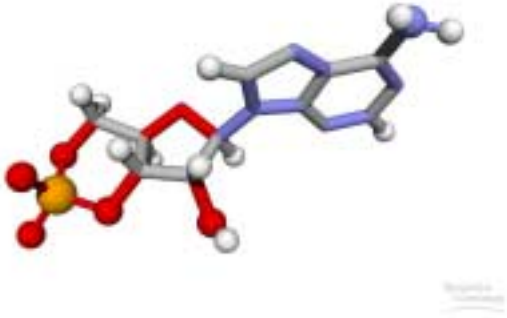
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Figure 18.22b Positive control: cAMP receptor protein

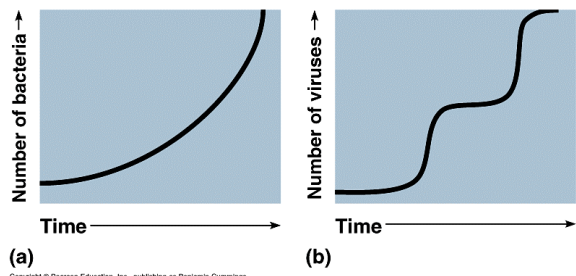


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Figure 18-22x cAMP



Unnumbered Figure (page 353) Bacterial and viral growth curves



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