

Figure 2.32

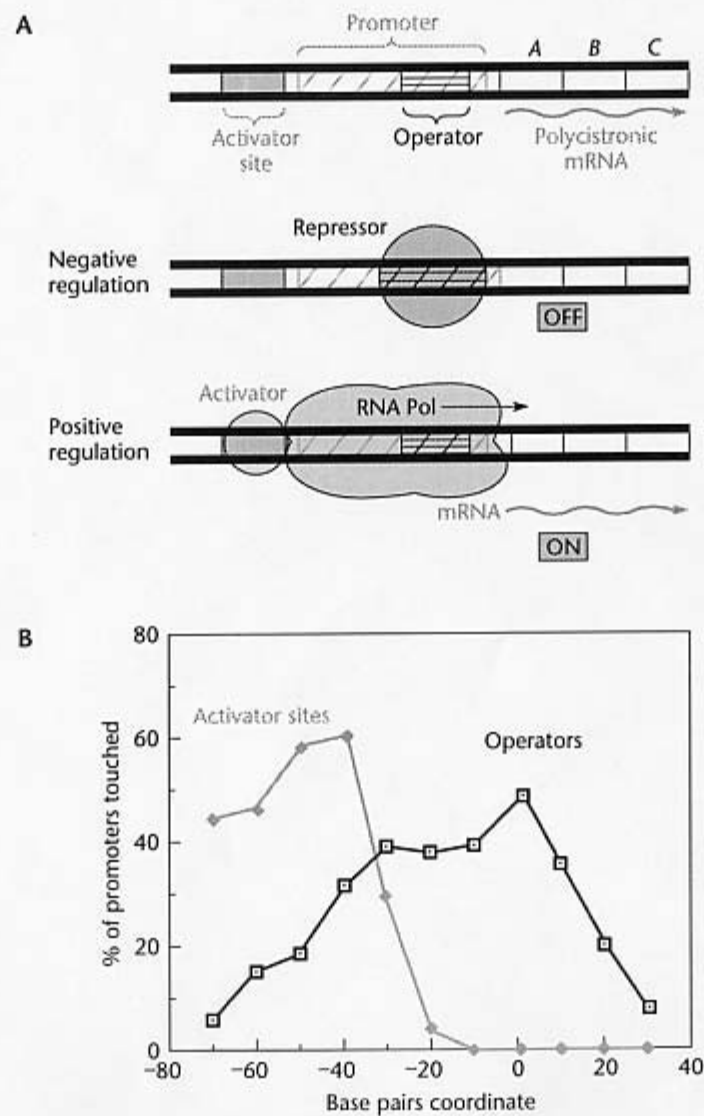


Figure 3.1

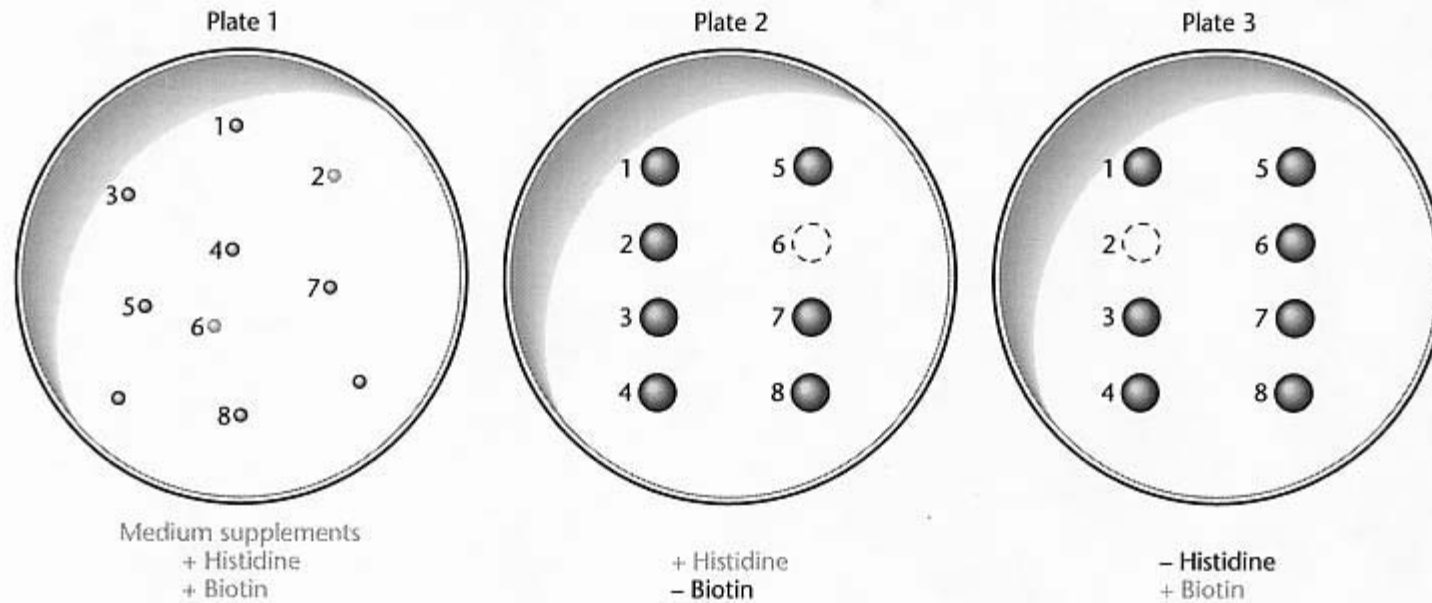


Table 3.1

TABLE 3.1 Some resistance mutations		
Substance	Toxicity	Resistance mutation
Bacteriophage T1	Infects and kills	Inactivates <i>tonB</i> outer membrane protein; phage cannot absorb
Streptomycin	Binds to ribosomes; inhibits translation	Changes ribosomal protein S12 so that it no longer binds
Chlorate	Converted to chlorite, which is toxic	Inactivates nitrate reductase, which converts chlorate to chlorite
High concentrations of valine, no isoleucine	Feedback inhibits acetolactate synthetase; starves for isoleucine	Activates a valine-insensitive acetolactate synthetase

Figure 3.3

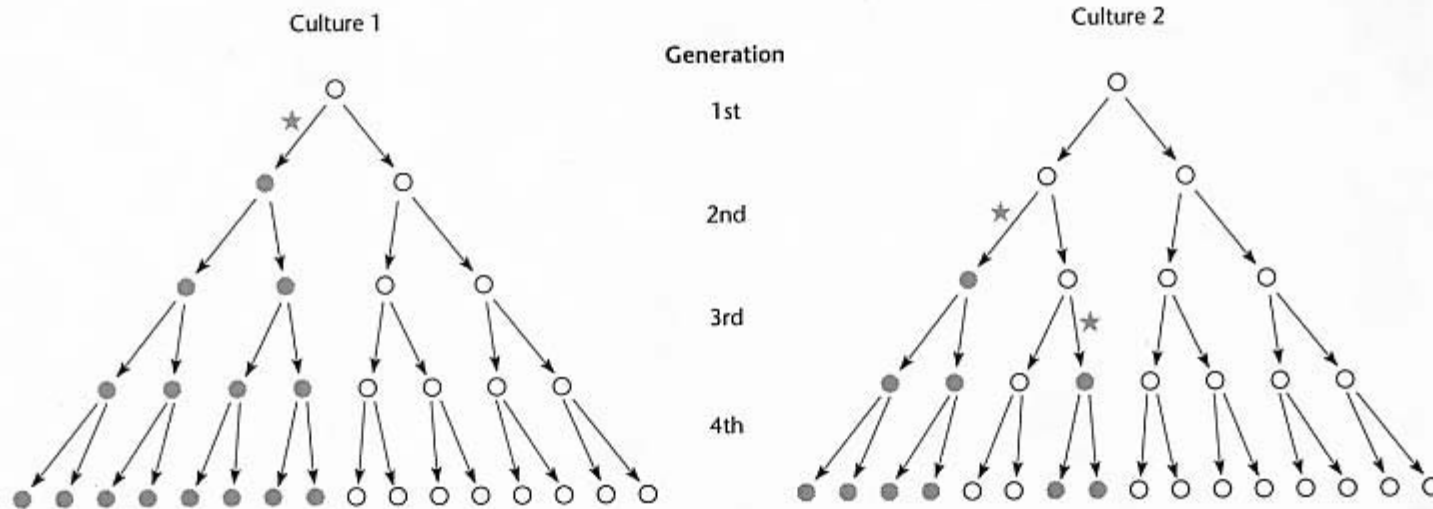


Figure 3.4

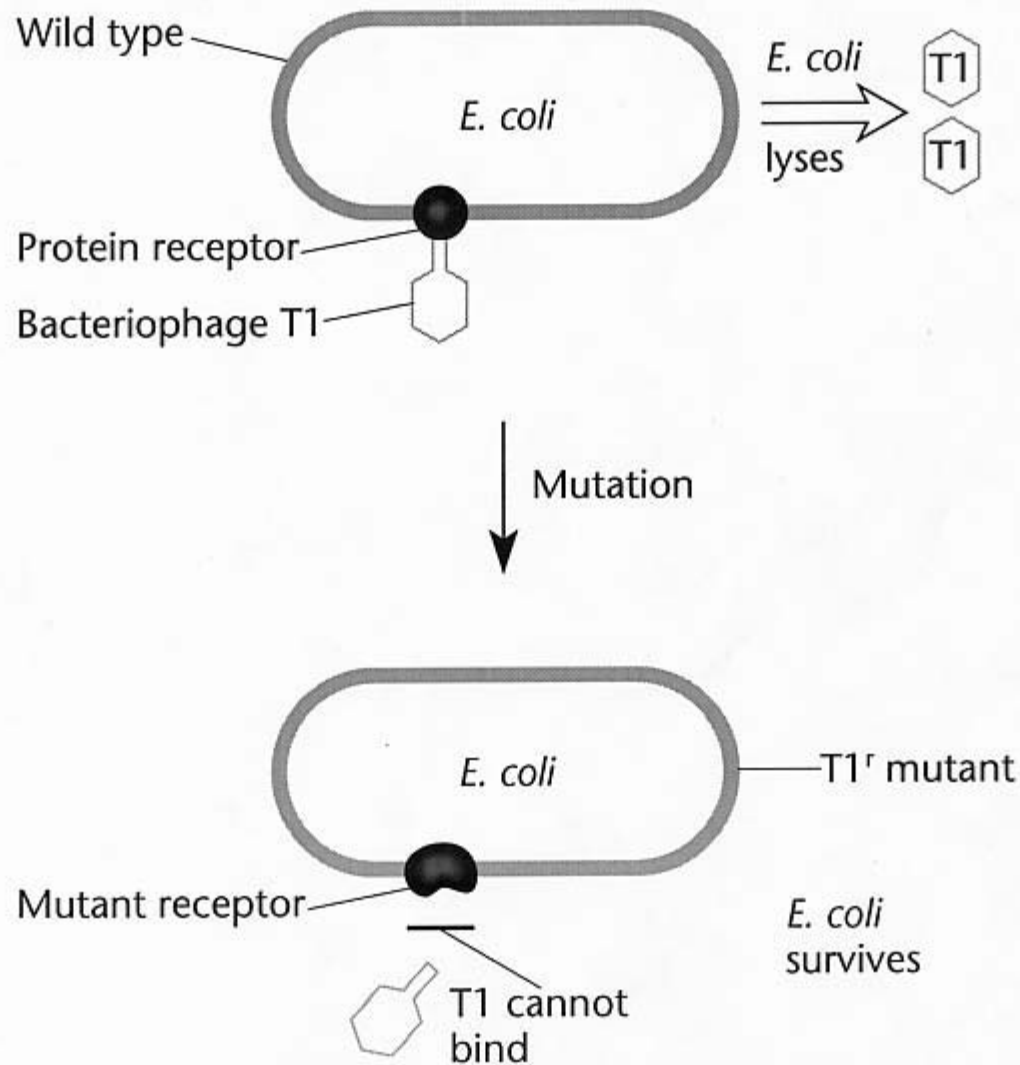


Figure 3.5

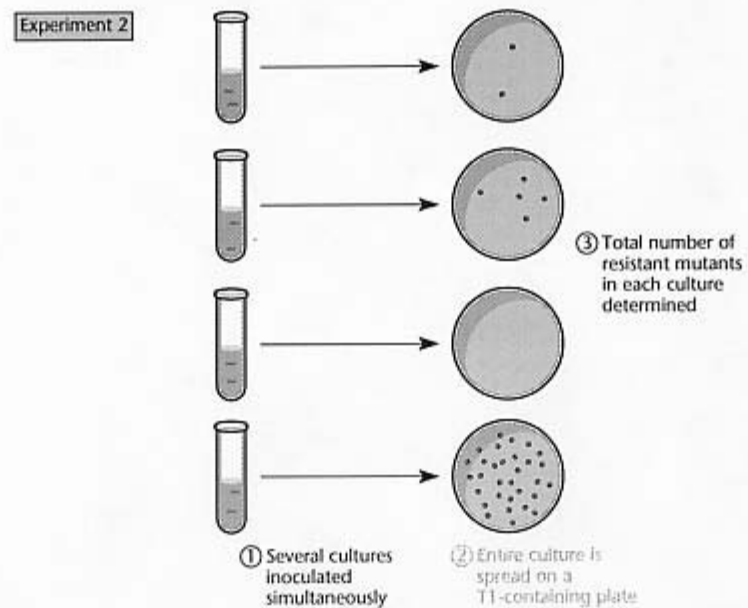
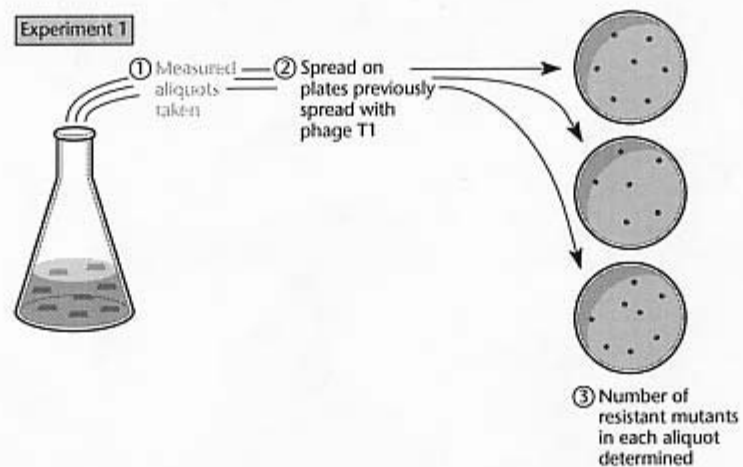


Table 3.2

TABLE 3.2		The Luria and Delbrück experiment	
Experiment 1		Experiment 2	
Aliquot no.	No. of resistant bacteria	Culture no.	No. of resistant bacteria
1	14	1	1
2	15	2	0
3	13	3	3
4	21	4	0
5	15	5	0
6	14	6	5
7	26	7	0
8	16	8	5
9	20	9	0
10	13	10	6
		11	107
		12	0
		13	0
		14	0
		15	1
		16	0
		17	0
		18	64
		19	0
		20	35

Figure 3.6

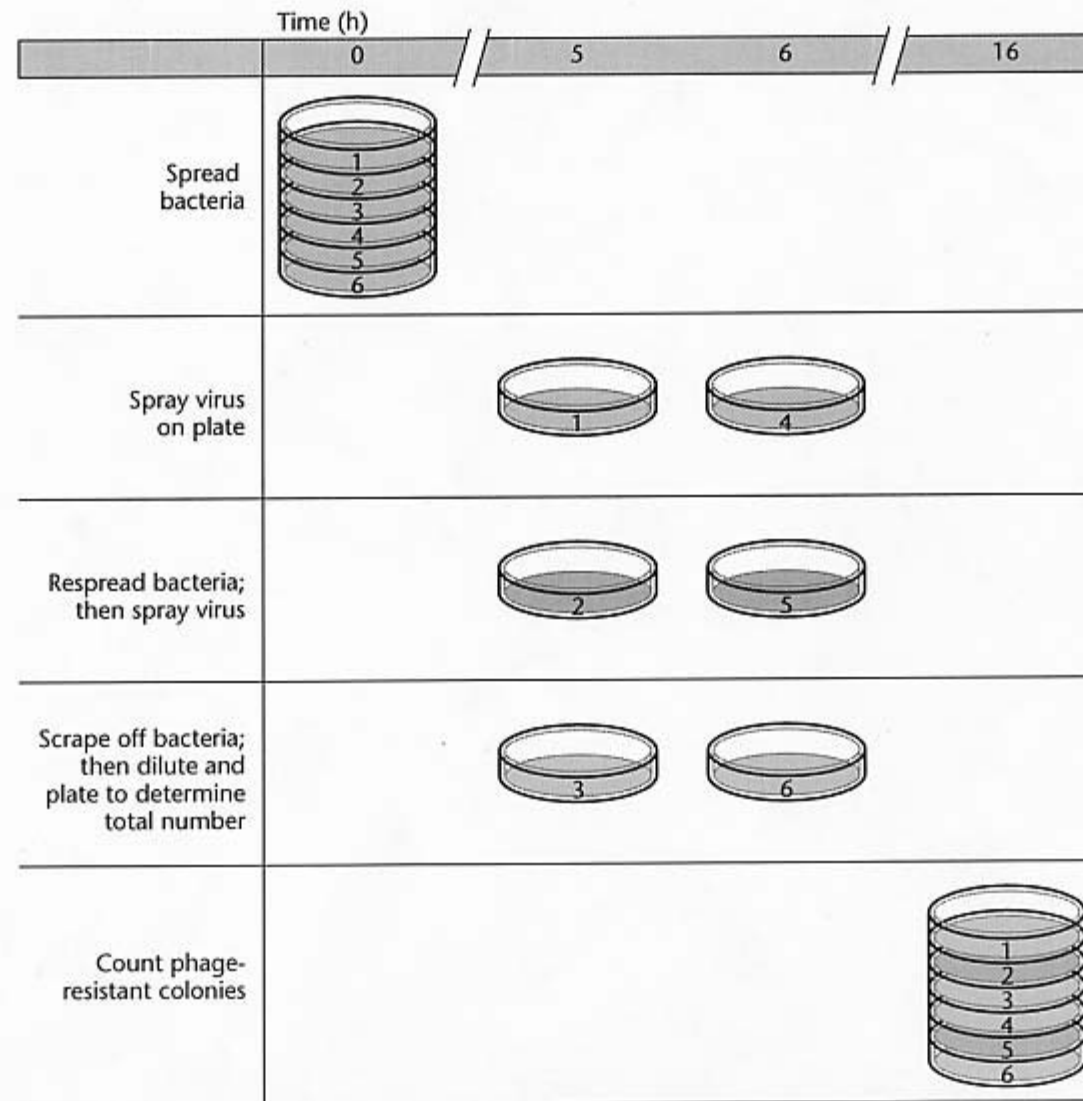


Table 3.3

Incubation time (h)	No. of bacteria plated	Ending no. of bacteria	No. of resistant colonies ^a	
			unsp	sp
5	5.1×10^4	2.6×10^8 (plate 3)	8 (plate 1)	13 (plate 2)
6	5.1×10^4	2.8×10^9 (plate 6)	49 (plate 4)	3,719 (plate 5)

^aunsp, unspread; sp, spread.