

Contents

1	Introductory remarks	
	References	7
		9
2	The enzymology of in vitro DNA recombination	
2.1	Restriction endonucleases	9
2.2	Joining restriction fragments with DNA ligase	9
2.3	Joining DNA via homopolymeric tails	10
	References	15
		17
3	Plasmid vectors	10
3.1	pSC101	18
3.2	ColEl	18
3.3	Derivatives of Co1E1 which contain drug-resistance markers	19 20
3.4	The biological containment of a plasmid vector system	24
3.5	Selection of plasmids containing specific nucleotide sequences	24
3.3	References	25
	Rejerences	23
4	Bacteriophage λ vectors	26
4.1	The biology of phage λ	26
4.2	Phage vectors	28
4.2	The late genes—their exploitation in cloning vectors	32
4.3	4.3.1 Phage assembly	32
	100 Distanced containment	33
	4.3.2 Biological contaminent 4.3.3 Increased recovery of recombinants by in vitro packaging	34
		35
	References	
_	Expression of cloned DNAs in E. coli	36
5	Expression of clotted DIVAS in 20 constant Services Expression of DNA cloned in plasmid vectors Expression of DNA cloned in plasmid vectors	36
5.1	Expression of DNA clotted in places 5.1.1 Complementation of E. coli auxotrophs 5.1.1 Complementation of novel polypeptides	36 37
		39
	5.1.2 Assays for expression of more in E. coli	47
	E 1 2 Evaracción di Vertebrato B	47
5.2	Expression from phage x promotes	4/
	Deferences	
	Methods for the physical characterisation of cloned segments Methods for the physical characterisation of cloned segments Methods for the physical characterisation of cloned segments	48
6	Methods for the physical character eukaryotes	49
	Methods for the physical characteristics of chromosomal DNA from higher eukaryotes Mapping cloned DNAs to their chromosomal origins Mapping cloned DNAs to their chromosomal origins	49
6.1	Manning cloned Divis	51
	A I I IN CITI IIVDIIGISM	
	6.1.2 Somatic cell hybrids	

6.2	Electrophoretic mapping techniques	
	6.2.1 Restriction mapping	52
	6.2.2 Gel transfer hybridisation	52
	6.2.3 Mapping transcripts	54
6.3		57
0.0	6.3.1 Denaturation mapping	58
	6.3.2 Heteroduplex mapping	59
	6.3.3 Mapping regions homologous to RNA	60
	References	60
	regerences	65
7	Approaches for studying owners:	
7.1	Approaches for studying expression in eukaryotic systems In vitro mutagenesis	66
	Expression systems	67
1.2	7.2.1 Clariani	68
	7.2.1 Cloning in yeast	68
	7.2.2 SV40 as a cloning vehicle	71
	7.2.3 Direct transformation of mammalian cells	74
	7.2.4 Microinjection of cloned DNAs into Xenopus laevis	. / 🔻
		75
	Dofon	/ 3
	References	77
	Rejerences	77
	Index	77