



100

PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA MfeI (82)

101 GAGAAGGTGGCGGGGTAACCTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCGCCGCCCTACCTGAGGCC PvuII (239) Bsu36I (291)

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT NgoMIV (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCCGCTA CCTGAGATCACCGGTCAGCATGCAGCGGGCGACCCACGCTCTGGCCGCTGCGCT KasI (535) AgeI (552)

1 M Q R A R P T L W A A A L
SandI (663)
EcoO109I (663) 601 GACTCTGTGGTGTGCTCCGCGGGCCCGGTGGCGGGCTGGCGGAGCTCGCGGGCTTGGGTCCCGTGGTGCAGCTGCGAGCCGTGCGACGCGCGT SacII (618) SgrAI (626)

13 T L L V L L R G P P V A R A G A S S A G L G P V V R C E P C D A R
BssHII (713) 701 GCACTGGCCAGTGCAGCCTCCGCCCGCGTGTGCGCGAGCTGGTGCAGCGCCGGCTGCGGCTGCTGCCTGACGTGCGCACTGAGCGAGGGCCAGC FspI (778)

47 A L A Q C A P P P A V C A E L V R E P G C G C C L T C A L S E G Q
SacII (891) 801 CGTGCGGCATCTACACCGAGCGCTGTGGCTCCGGCCTTCGCTGCCAGCCGTCCGCCGACGAGGCGCGACCCGCTGCAGGCGCTGCTGGACGGCCGCGGGCT Eco47III (818) PstI (871) EagI (888)

80 P C G I Y T E R C G S G L R C Q P S P D E A R P L Q A L L D G R G L
BssHII (930) 901 CTGCGTCAACGCTAGTGCCGTACGCCGCTGCGCGCTACCTGCTGCCAGCGCCGCCAGCTCCAGG AAATGCTAGTGAGTCGGAGGAAGACCGCAGCGCC NgoMIV (997)

113 C V N A S A V S R L R A Y L L P A P P A P G N A S E S E E D R S A
DraIII (1033) 1001 GGCAGTGTGGAGAGCCGTCGCTCCAGCAGCACC GGGTGTCTGATCCAAAGTTCCACCCCTCCATTCAAAGATAATCATCATCAAGAAAGGCATG BsaBI (1074)

147 G S V E S P S V S S T H R V S D P K F H P L H S K I I I I K K G H
Eco47III (1112) 1101 CTAAAGACAGCCAGCGCTACAAAGTTGACTACGAGTCTCAGAGCACAGATACCAGAACTTCTCCTCCGAGTCCAAGCGGGAGACAGAATATGGTCCCTG

180 A K D S Q R Y K V D Y E S Q S T D T Q N F S S E S K R E T E Y G P C
BsrGI (1263) 1201 CCGTAGAGAAATGGAAGACACACTGAATCACCTGAAGTTCCTCAATGTGCTGAGTCCCAGGGGTGTACACATTCCAAGTGTGACAAGAAGGGATTTTAT

213 R R E M E D T L N H L K F L N V L S P R G V H I P N C D K K G F Y
 1301 AAGAAAAAGCAGTGTGCGCCTTCAAAGGCAGGAAGCGGGGCTTCTGCTGGTGTGGATAAGTATGGGCAGCCTCTCCAGGCTACACCACCAAGGGGA

247 K K K Q C R P S K G R K R G F C W C V D K Y G Q P L P G Y T T K G
MscI (1463)
BalI (1463) 1401 AGGAGACGTGCACTGCTACAGCATGCAGAGCAAGTAGACGCTGCCGAAGGTTAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGAC

280 K E D V H C Y S M Q S K •
NheI (1457)

1501 AAACCACAAC TAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAA HpaI (1595)

1601 CAACAACAATTGCATTATTTTATGTTTCAGGTT CAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAA MfeI (1606) EcoRI (1691)

1701 AATACAGCATAGCAAACTTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGT

1801 GCATTAGCTGTTTGCAGCCTCACCTTTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACTGCTCTTCATTCTTTATGTTTTAAATG

1901 CACTGACCTCCACATTCCCTTTTATGTAATAATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAAATCCAGAT SspI (1930) SwaI (1944)

2001 GCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGACTTCTAGCT EcoO109I (2005)

2101 TTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCA

141 • N R T Y K L P I L E E I T T K V L K G N M E I L V F C D P A Y D
BstXI (2234) 2201 GAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCAAATGGTGTCAAAGT

107 S I L E R C M G C P S V V R I S R D V E D S Y P H R V A V I T D F D
StuI (2369)
Eco147I (2369) 2301 CCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTC

74 K Q G N S V A S G I A I A E A C V T V R G I Y A E I H V A S I I E
 2401 CCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGC

41 G T K T R I A A G V H H K N D E Y L M T I K E T A V E V L E L D Q

BspHI (2519) **VspI (2577)**
XmnI (2511) **AseI (2577)**
2501 TGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGGA
7 Q S I N F T K M
2601 TGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGT

SpeI (2732)
2701 TGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACC

SnaBI (2860) **Eco105I (2860)**
2800 GCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGT

NdeI (2965)
2900 CATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCA
3000 GTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGT

PstI (3144) **BspLU11I (3161)**
SdaI (3143) **PacI (3151)**
3100 TGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCGAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACC
3198 GTAAAAAGGCCGCGTTGTGCGGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG
3298 ACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCG
3398 GGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGC
3498 CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG
3598 AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA
3698 GTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAA

PacI (3891)
3798 AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATT

EagI (3911) **NotI (3910)**
Swal (3900)
3898 AACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAA
3998 ACAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA