



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTATGTCGTGACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCGCTACCTGAGGCC

PvuII (239)
Bsu36I (291) 301 GCCATCCACGCCGGTTGAGTCGGCTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCAGCTTTGCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) **BspHI (560)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTATCATGAAAGTCACACGCTTCATGTTTTGGCTCTTCCAT

1► M K V T R F M F W L F S M

HindIII (623)
601 GCTACTACCATCTGTCAAAGCCAAGCTTCTGAAACAGAAGTCCCATGTAATTCAGCAGAAGGAATTACACTTTGATTCCAGAGGGTATCAGTACCAAT

13► L L P S V K S Q A S E T E V P C N F S R R N Y T L I P E G I S T N

701 GTTACCATTCTTGATCTCAGTTATAACCGAATTACTCTGAATGCTGCAGATAGCAGGGTGTGCGATGACTCTTTACTCACTGAGCTCTACCTGATGG

47► V T I L D L S Y N R I T L N A A D S R V L Q M Y S L L T E L Y L M

801 AGAATAACATCATTGCCTTATATAACAGCAGTTTCAGGAATCTTCAACCTAGAAATTTAAATATCTGTGGAAATCAATCAGTGTAAATCAACAGGG

80► E N N I I A L Y N S S F R N L L N L E I L N I C G N S I S V I Q Q G

901 TTCATTTGTTGGCTTAAATGAACTAAAACAATTATTTCTTTCGCAAAAACAAATATTACAACCTGAATCCCGATACATTTGTCCTCTAAATAACCTAAAA

113► S F V G L N E L K Q L F L C Q N K I L Q L N P D T F V P L N N L K

NcoI (1084)
1001 GTTCTGAATCTGCAAGGCAATTTGATACGCCTCTTCGATGCACCACAGCTACCTCATCTGGAGATACTAACTCTGGATGGAATCCATGGAAGTGTACCT

147► V L N L Q G N L I R L F D A P Q L P H L E I L T L D G N N P W N C T

1101 GTGGTCTACTTGAGTTGCACAACCTGGCTGAACACGTCTAATGTGACATTAGAAAACGAGAACATGACCATGTGTAGCTACCCAGATGAGCTAAAGCACGA

180► C G L L E L H N W L N T S N V T L E N E N M T M C S Y P D E L K H D

XmnI (1261) **EcoRI (1281)**
1201 CAGCATCAAGTCAGCGCCCTTCACAACTGAATGCCACTCTACATTTATTTCCACTATAACTGAAGACTTTTCAGTCCGCTAGGAATTCATCTTTGATAGC

213► S I K S A P F T T E C H S T F I S T I T E D F Q S A R N S S F D S

1301 TCTTACACAACCTAACATGGACCTCAGAGCATGAGCCTCTGGGAAAAGCTGGGCTTTCTGTTGGTGTGTTGCCACTGTACTGCTAACTTCACTGC

247► S S H N L T W T S E H E P L G K S W A F L V G V V A T V L L T S L

1401 TTATCTTCATTGCTATCAAGTGCCAGTATGGTACAATATTCTGCTGAGTTACAACCACATCGCCTGGAAGAGCATGAGGCAGAAACCTATGAAAATGG

280► L I F I A I K C P V W Y N I L L S Y N H H R L E E H E A E T Y E N G

NsiI (1580) **SphI (1578)**
1501 TCTTACAAGAAACCAAGTTCTTTTCAAAATAACAGATACGAACCTCTGAAGACACCACAGTATATTTGAACAGTTGCATGATTTGTGGTAGATGAT

313► L T R N P S S L S Q I T D T N S E D T T V I F E Q L H A F V V D D

MscI (1672)
1601 GATGGGTTTATTGAAGACAGATACATAGATATCAATGAGGTACATGAAGAAAAGTAATTTTATCGTCTAGCTGGCCAGACATGATAAGATACATTGATG

347► D G F I E D R Y I D I N E V H E E K •

1701 AGTTTGGACAAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAA

HpaI (1804) MfeI (1815)
1801 ACAAGTTAAACAACAATTGCATTCATTTTATGTTTCAGGTTGAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATG

EcoRI (1900)
1901 GAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGT

2001 TGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTGTGAACTAGCTCTTCATTTCTTTATG

Swal (2153)
2101 TTTTAAATGCACTGACCTCCACATTCCTTTTATGATAAATATTAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAG

EcoO109I (2214)
2201 AATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAG

2301 CTTCTAGCTTTAGTTCCTGGTACTTGGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGA

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

BstXI (2443)
2401 GCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGG

110► A Y D 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

2501 TGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGA
77 D F D 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
2601 GATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCC
44 I I E 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

XmnI (2720) AseI (2786)
2701 AGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAA
10 L D Q Q S I N F T K M
2801 CAGCGTGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCTACCGCCATTTGCGTCAATG

SpeI (2941)
2901 GGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGA

SnaBI (3069)
3001 GTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCC

NdeI (3174)
3101 CATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCA
3201 AGTGGGCAGTTTACCCTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGG

PacI (3360) SdaI (3352) BspLU11I (3370)
3301 GGGGTCGTTGGGCGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCA
3401 GGAACCGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCAGAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCC
3501 GACAGGACTATAAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTC

ApaLI (3684)
3601 CCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCG

3701 TTCAGCCCAGCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGAT
3801 TAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTG

3901 AAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGC
4001 GCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAG

EagI (4120) PacI (4100) SwaI (4109) NotI (4119)
4101 TTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCC
4201 ATCAAAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA