



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCGCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

BstEII (555)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCCATGGAGGCCCAACGCGTCTGCCCACTCAACTTCAC

NcoI (560) 1 M E A H N A S A P F N F T

MluI (575) NcoI (695)

601 CCTGCCACCAACTTTGGCAAGCGCCACAGACCTGGCACTGAGCGTCATCCTGGTGTTCATGTTGTTCTTCATCATGCTCTCGCTGGGCTGCACCATG

13 L P P N F G K R P T D L A L S V I L V F M L F F I M L S L G C T M

XcmI (746)
701 GAGTTCAGCAAGTCAAGGCTCACTTATGGAAGCCTAAAGGGCTGGCCATCGCCCTGGTGGCACAGTATGGCATCATGCCCTCACGGCTTTGTGCTGG

47 E F S K I K A H L W K P K G L A I A L V A Q Y G I M P L T A F V L

801 GCAAGGCTTCCGGCTGAAGAATTGAGGCACTGGCCATCTGGTCTGTGGTGTCTCACCTGGAGGAACTGTCCAATGTCTTCACTGCTGGCCATGAA

80 G K V F R L K N I E A L A I L V C G C S P G G N L S N V F S L A M K

BsrGI (974)
901 GGGGACATGAACCTCAGCATTGTGATGACCACCTGCTCCACCTTCTGTGCCCTTGGCATGATGCCTCTCCTCTGTACATCTACTCCAGGGGATCTAT

113 G D M N L S I V M T T C S T F C A L G M M P L L L Y I Y S R G I Y

EcoO109I (1004) **EcoRV (1041)**
1001 GATGGGACCTGAAGGACAAGGTGCCCTATAAAGGCATCGTATATCACTGGTCTGGTTCATTCTTGCACCATAGGGATCGTCTCAAATCCAAAC

147 D G D L K D K V P Y K G I V I S L V L V L I P C T I G I V L K S K

BsaBI (1134) **SapI (1194)**
1101 GGCCACAATACATGCGCTATGTCATCAAGGGAGGGATGATCATCATTCTTGTGCAGTGTGGCCGTACAGTTCCTCTGCCATCAATGTGGGGAAGAG

180 R P Q Y M R Y V I K G G M I I L L C S V A V T V L S A I N V G K S

1201 CATCATGTTTGCATGACCACTCTTGATTGCCACCTCCTCCTGATGCCTTTATTGGCTTTCTGCTGGGTTATGTTCTCTGCTCTCTTCTGCCTC

213 I M F A M T P L L I A T S S L M P F I G F L L G Y V L S A L F C L

XcmI (1364)
1301 AATGGACGGTGCAGACGCACTGTGAGTGGAGACTGGATGCCAAAATGTCCAACCTGTTCCACCATCCTCAATGTGGCCTTCCACCTGAAGTCATTG

247 N G R C R R T V S M E T G C Q N V Q L C S T I L N V A F P P E V I

1401 GACCACTTTTCTTTCCCTCCTCTACATGATTTCCAGCTTGGAGAAGGGCTTCTCCTCATTGCCATATTTGGTGTATGAGAAATTCAAGACTCC

280 G P L F F F P L L Y M I F Q L G E G L L L I A I F W C Y E K F K T P

PvuII (1526)
1501 CAAGGATAAAAACAAAATGATCTACACAGCTGCCACAACCTGAAGAAACAATCCAGGAGCTCTGGAAATGGCACCTACAAGGGGAGGACTGCTCCCT

313 K D K T K M I Y T A A T T E E T I P G A L G N G T Y K G E D C S P

NheI (1611)
1601 TGCACAGCTAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTAAAT

347 C T A •

HpaI (1749) **MfeI (1760)**
1701 TTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCATTTTATGTTTCAGGTTTCAGGGGGAGGTG

EcoRI (1845)
1801 TGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTCTACTTG

1901 AATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATA

SapI (2027) **SspI (2084)** **Swal (2098)**
2001 TAGTGTATTTTCCCAAGGTTTGAAGTCTCTTCAATTTCTTTATGTTTAAATGCACTGACCTCCACATTCCCTTTTATGAAAAATTCAGAAATAAT

EcoO109I (2159)
2101 TTAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAG

2201 GGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTT

141 • N R T Y K L P I L E E I T T

2301 TTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGG

125 K V L K G N M E I L V F C D P A Y D S I L E R C M G C P S V V R I S

2401 ATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGC

92 R D V E D S Y P H R V A V I T D F D K Q G N S V A S G I A I A E A

StuI (2523)

2501 ACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGCCGCCCGACATGGTGCTTGTGTCC
59 C V T V R G I Y A E I H V A S I I E G T K T R I A A G V H H K N D
2601 TCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCG
25 E Y L M T I K E T A V E V L E L D Q Q S I N F T K M

AseI (2731)

2701 TATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTA

SpeI (2886)

2801 TATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAA
2901 ACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTA

SnaBI (3014)

3001 ATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAAGTCCCATAAGGTCATGTAAGTCCAGGCGGGCCATTTACCGTCATTGACGT

NdeI (3119)

3101 CAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTAT

PstI (3298)

SdaI (3297)

3201 TGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCT

PacI (3305)

BspLU11I (3315)

3301 GCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGA
3401 CGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCGCTCT
3501 CCGTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGG

ApaLI (3629)

3601 TGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGACGAAACCCCGTTACGCCGACCGCTGCCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGT
3701 AAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAAC
3801 TACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAAACCA
3901 CCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGC

EagI (4065)

PacI (4045) SwaI (4054) NotI (4064)

4001 TCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATC
4101 TGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAG
4201 TGCAGGTGCCAGAACATTTCTCTATCGAA