



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCCGCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTAGGAGGGCCACCATGGTCTGACGCTGCTTCTCTCCGCTAC

1 M V L T L L L S A Y

AgeI (552) **NcoI (568)**
NcoI (690)
601 AAGCTGTGTGCTTCTTCCGCATGTCCGGCCACGGCCGGGCGCCGAGCGGCTGGCGTGCCTGGCCAGATGGGGCGGTGGCACGGGCCATGGTGGG

11 K L C R F F A M S G P R P G A E R L A V P G P D G G G G T G P W W

SacII (710)
701 CTGCGGTGGCCGCGGGCCCCGGAAGTGTCCGCGGGGCGAGGACCGAGGTGCAGGACGCCCTGGAGCGCGCTGCCGGAGCTGCAGCAGGCCCTTGTG

44 A A G G R G P R E V S P G A G T E V Q D A L E R A L P E L Q Q A L S

801 CGCGCTGAAGCAGGCGGGCGCGCGGGCCGTGGGCGCCGCGCTGGCCGAGGCTTCCAAGTGGTGGAGGAGCCTGGTGTGCGCGCCGTGGGCCG

77 A L K Q A G G A R A V G A G L A E V F Q L V E E A W L L P A V G R

MluI (987)
901 GAGGTAGCCAGGGTCTGTGCGACGCCATCCGCTCGATGGCGGCTCGACCTGCTGTTGCGGCTGCTGCAGGCGCCGAGTTGGAGACGCGTGTGCAGG

111 E V A Q G L C D A I R L D G G L D L L L R L L Q A P E L E T R V Q

1001 CCGCGCCTGCTGGAGCAGATCCTGGTGGCTGAGAACCAGACCGCGTGGCGCGATTGGGCTGGCGGTGATCCTGAACCTGGCGAAGGAACGCAACC

144 A A R L L E Q I L V A E N R D R V A R I G L G V I L N L A K E R E P

BspLU11I (1138)
1101 CGTAGAGCTGGCGGAGCGTGGCAGGCATCTTGGAGCACATGTTCAAGCATTGGAGGAGACATGCCAGAGGCTGGTGGCGCGCCGGCCCTGGACGCG

177 V E L A R S V A G I L E H M F K H S E E T C Q R L V A A G G L D A

1201 GTGCTGTATTGTTGCCGCGCACGGACCCGCGCTGCTGCGCCACTGCGCGCTGGCGTGGGCAACTGCGCGCTGCACGGGGCCAGGCGGTGCAGCGAC

211 V L Y W C R R T D P A L L R H C A L A L G N C A L H G G Q A V Q R

SapI (1328)
1301 GCATGGTAGAGAAGCGCGCAGCCGAGTGGCTTCCCGCTCGCCTTCTCCAAGGAGGACGAGCTGCTTCCGCTGCACGCTGCCTCGCAGTAGCGGTGTT

244 R M V E K R A A E W L F P L A F S K E D E L L R L H A C L A V A V L

Eco47III (1432)
1401 GGCRACTAACAGGAGGTGGAGCGGAGGTGGAGCGCTCGGGCACGCTGGCGCTCGTGGAGCCGCTTGTGGCCTCGTGGACCTGGCCGCTTCCGCCG

277 A T N K E V E R E V E R S G T L A L V E P L V A S L D P G R F A R

SacII (1532)
1501 TGTCTGGTGGACGCCAGCGACACAAGCCAGGGCCGCGGGCCGACGACCTGCAGCGCCTCGTCCGTTGCTCGACTCTAACCGCTTGGAGGCGCAGTGCA

311 C L V D A S D T S Q G R G P D D L Q R L V P L L D S N R L E A Q C

1601 TCGGGCTTCTACCTCTGCGCGGAGGCTGCCATCAAGAGCCTGCAAGGACCAAGGTTTCAGCGACATCCGGCCATCCAGAGCCTCAAACGCT

344 I G A F L H S E E L Q T D L G M K S G I T R K R F F R E L T E L K T F A

1701 GGTTCCTACTCTACCAATGGCCTAAGTGGCGCTGGCCAAGCGCGCTGCGCCTGCTGGGCGAGGAGTCCACGGCCATCCTGCCCTCCGTGCC

377 V S Y S T N G T K S A L A K R A L R L L G E E V P R P I L P S V P

ScaI (1852)
1801 AGCTGGAAGGAGCGGAGGTTACAGCTGGCTGCAGCAGATCGGTTTCTCAAAGTACTGCGAGAGCTCCGGGAGCAGAGTGGATGGCGACCTGCTTC

411 S W K E A E V Q T W L Q Q I G F S K Y C E S F R E Q Q V D G D L L

1901 TCGGGCTACGGAGGAACTCCAGACCGACTGGGCATGAAATCGGGCATACCCGCAAGAGGTTCTTAGGGAGCTCACGGAGCTCAAGACCTTCGC

444 L R L T E E E L Q T D L G M K S G I T R K R F F R E L T E L K T F A

2001 CAACTATTCTACGTGCGACCGCAGCAACCTGGCGGACTGGCTGGGCGCCTGGACCCGCGCTTCCGCCAGTACACCTACGGCCTGGTCAAGTGCAGCTGCGGCCTG

477 N Y S T C D R S N L A D W L G S L D P R F R Q Y T Y G L V S C G L

DraIII (2115) **BstAPI (2129)**
2101 GACCGCTCCCTGCTGCACCGCTGTCTGAGCAGCAGCTGCTGGAAGACTGCGGCATCCACCTGGGCGTGCACCGCGCCCGCATCCTCACGGCGGCCAGAG

511 D R S L L H R V S E Q Q L L E D C G I H L G V H R A R I L T A A R

2201 AAATGCTACACTCCCGCTGCCCTGACTGGTGGCAAACCCAGTGGGACACTCCAGATGCTTTCATCAGTACCAGCGGAACTCAGGTTCCAGCTGGC

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

2301 CAGTCTCCTGAAGGTGCACCTGCAGCTGCATGGCTTCAAGTGTCTTATTGATGTGGAGAAGCTGGAAGCAGGCAAGTTCGAGGACAACTCATCCAGAGT

577 S L L K V H L Q L H G F S V F I D V E K L E A G K F E D K L I Q S

SphI (2455)
2401 GTCATGGGTGCCCGCAACTTTGTGTTGGTGTATCACCTGGAGCACTGGACAAGTGCATGCAAGACCATGACTGCAAGGATTGGGTGCATAAGGAGATTG

611 V M G A R N F V L V L S P G A L D K C M Q D H D C K D W V H K E I

Bsu36I (2574) **BstAPI (2585)**
2501 TGAAGCTTAAAGCTGCGGCAAGAACATTGTGCCATCATTGATGGCTTCAGTGGCCTGAGCCCCAGGTCCTGCTGAGGACATGCAGGCTGTGCTTAC

644 V T A L S C G K N I V P I I D G F E W P E P Q V L P E D M Q A V L T

2601 TTTCAACGGTATCAAGTGGTCCACGAATACCAGGAGGCCACCATTTGAGAAGATCATCCGCTTCCTGCAGGGCCGCTCCTCCCGGACTCATCTGCAGGC
677▶ F N G I K W S H E Y Q E A T I E K I I R F L Q G R S S R D S S A G

SdaI (2663) XmaI (2680)

NheI (2763)

2701 TCTGACACCAGTTTGGAGGGTGTGCACCCATGGGTCCAACCTAACCCAGTCCCAGTCCCAGTCCCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGT
711▶ S D T S L E G A A P M G P T •

NcoI (2728) BstXI (2760)

2801 TTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACA

2901 **HpaI (2901)** MfeI (2912) **EcoRI (2997)**
AGTTAAACAACAACAAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAA

3001 TTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGC

3101 CAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTGCTTTCATTTCTTTATGTTT

SapI (3179)

3201 TAAATGCACTGACCTCCACATTCCTTTTATAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAAT

SspI (3236) SwaI (3250)

3301 CCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAATAGAAATGGACAGCAAGAAAGCGAGCTT

3401 CTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTATCTCAATGAGCACAAAGCAGTCAGGAGCA
—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

BstXI (3540)

3501 TAGTCAGAGATGAGTCTCTGCACATGCCACAGGGGCTGACCCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGT
109▶ 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 D

3601 CAAAGCTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCAATGTAGGCTCAATGTGGACAGCAGAGAT
76▶ 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 I

3701 GATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGA
43▶ 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 L

XmnI (3817) AseI (3883)

3801 TCCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAAGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAG
9▶ D Q Q S I N F T K M

3901 CGTGGATGGCGTCTCCAGCTTATCTGACGGTCTACTAAACGAGCTCTGCTTATATAGACTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGG

4001 CGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTC

SpeI (4038)

4101 AAACCGCTATCCACGCCATTGATGTAAGTCCGATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCCAT

SnaBI (4166)

4201 AAGGTCATGTAAGTGGCATAATGCCAGGCGGGCCATTTACCGTATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGT

NdeI (4271)

4301 GGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGG

4401 GTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTATGTAACCGCTGAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGA

SdaI (4449) PacI (4457) BspLU11I (4467)

4501 ACCGTA AAAAGGCCGCTTGGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGAC

4601 AGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCT

4701 TCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCCAAGTGGGCTGTGTGCACGAACCCCGTTT

4801 AGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAG

4901 CAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAG

5001 CCAGTTACCTTCGAAAAAGAGTTGGTAGTCTTGTATCCGGCAAAACAAACCCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGGCA

5101 GAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTA

PacI (5197)

5201 ATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATC

SwaI (5206) NotI (5216)

5301 AAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA