



PvuI (7)
SgfI (6) **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGACAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
EcoNI (287)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **NcoI (560)** **BstEII (555)** **XmaI (581)** **SrfI (580)**
NgoMIV (576)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTCACCATGGCCGCCCGGAGCCGCGCCGGGTCGACCCGCCCC
1 M A A P E P A R A A P P P

XmaI (622) **Tth111I (631)**

601 ACCCCCGCCCCCGCCGCTCCTCCCGGGCTGACCGCGTCTCAAAGCTGTCCCTTTCCCCCAACACATCGCTTACATCTGAAGAAGTATTTGATTTG
13 P P P P P P P P G A D R V V K A V P F P P T H R L T S E E V F D L

DraIII (733)

701 GATGGGATACCCAGGTTGATGTTCTGAAGAACCCTTGGTGAAGAAGTGCAGTAGATGAAGAAATTGCGCTTAGAATTATCAATGAGGGTGTGCCA
47 D G I P R V D V L K N H L V K E G R V D E E I A L R I I N E G A A

MscI (864) **DraIII (843)** **NcoI (861)**

801 TCCTTCGGAGAGAGAAAACCATGATAGAAGTAGAAGTCCAATCACAGTGTGGTGACATCCATGGCCAATTTTTGATCTGATGAAACTTTTTGAAGT
80 I L R R E K T M I E V E A P I T V C G D I H G Q F F D L M K L F E V
901 AGGAGGATCACCTGCTAATACAGATACCTTTTTCTGGCGATTATGTGGACAGAGTTATTTAGTATAGAGTGTGCTTATATTTATGGTCTGAAG
113 G G S P A N T R Y L F L G D Y V D R G Y F S I E C V L Y L W V L K
1001 ATTCTATACCAAGCACATTATTTCTTCTGAGAGGCAACCATGAATGCAGACACCTTACTGAATATTTTACCTTTAAGCAGGAATGTAATAAAGTATT
147 I L Y P S T L F L L R G N H E C R H L T T E Y F T F K Q E C K I K Y
1101 CGAAAGAGTCTATGAAGCTTGTATGAAAGCTTTTGTAGTTTGCCTCTTGTGCACCTTTAAACCAACAGTTTCTTTGTTTATGTTGGTGGACTTCCAC
180 S E R V Y E A C M E A F D S L P L A A L L N Q Q F L C V H G G L S P
1201 AGAAATACACACTGGATGATATTAGGAGATTAGATAGATTCAAAGAGCCACTGCATTTGGACCAATGTGTGACTTGTATGGTCCGATCCTTCTGAA
213 E I H T L D D I R R L D R F K E P P A F G P M C D L L W S D P S E
1301 GATTTTGGAAATGAAAATCACAGGAACATTTAGTACAATACAGTTCGAGGATGTTCTATTTTTATAACTATCCAGCAGTGTGTGAATTTTTGCAA
247 D F G N E K S Q E H F S H N T V R G C S Y F Y N Y P A V C E F L Q

ClaI (1413) **BspHI (1428)** **BsrGI (1457)** **AseI (1491)**

1401 ACAATAATTTGTTATCGATTATTAGAGCTCATGAAGCTCAAGATGCAGGCTATAGAATGTACAGAAAAAGTCAAACACTACAGGGTTCCTTCATTAATAAC
280 N N N L L S I I R A H E A Q D A G Y R M Y R K S Q T T G F P S L I T
1501 AATTTTTCCGACCTAATTACTTAGATGTCTACAATAATAAAGCTGTGATTTAAAGTATGAAAATAATGTGATGAATATTCGACAGTTAACTGTTCT
313 I F S A P N Y L D V Y N N K A A V L K Y E N N V M N I R Q F N C S

XcmI (1600) **BbrPI (1638)**

1601 CCACATCCTACTGGTTGCCTAATTTTATGGATGCTTCCACGTGGTCTTACCCTTTGTTGGAGAAAAAGTGACAGAAATGTTGGTAAATGTTCTGAGTA
347 P H P Y W L P N F M D V F T W S L P F V G E K V T E M L V N V L S

PvuII (1754)

1701 TTTGCTCTGATGATGAACATAATGACTGAAGGTGAAGACCAGTTTGTGATAGTTTGTGCTGACACTCAAGGCGCTGACTCCACAGGGATGTTGCCTAGTGGAGTG
380 I C S D D E L M T E G E D Q F D V G S A A A R K E I I R N K I R A I

EcoO109I (1862)

1801 TGGCAAGATGGCAAGAGTCTTCTCTGTTCTCAGGGAGGAGTGAAGTGTGCTGACACTCAAGGCGCTGACTCCACAGGGATGTTGCCTAGTGGAGTG
413 G K M A R V F S V L R E E S E S V L T L K G L T P T G M L P S G V
1901 TTAGCTGGAGGACGGCAGACCCTGCAAAGTGCCACAGTTGAGGCTATTGAGGCTGAAAAGCAATACGAGGATTCTCTCCACCACATAGAATCTGCAGTT
447 L A G G R Q T L Q S A T V E A I E A E K A I R G F S P P H R I C S

BsrGI (2058)

2001 TTGAAGAGGCAAAGGTTTGGATAGGATCAATGAGAGAATGCCACCTCGAAAGATGCTACAGCAAGATGGTTTCAATTCTCTGAACACCGCACATGC
480 F E E A K G L D R I N E R M P P R K D A V Q Q D G F N S L N T A H A

MscI (2165) **NheI (2159)**

2101 CACTGAGAACCACGGGACGGCAACCATACTGCCAGTGACCCACTACTTCCAGGGACGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTG
513 T E N H G T G N H T A Q •

HpaI (2297)

2201 ACAAACCAACTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTT

EcoRI (2393)

2301 AACAAACAACATTCATTATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCT
2401 AAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAAT
2501 GTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCAAAGTTTGAAGTACGCTTTCATTCTTTATGTTTTAAA

2601 TGCCTGACCTCCACATTCCCTTTTTAGTAAAATATTTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAG
 SwaI (2646)

2701 ATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAG
 EcoO109I (2707)

2801 CTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGT
 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

2901 CAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAA
 108 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
 BstXI (2936)

3001 GTCCTTCTGCCGGTGTCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATC
 75 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 I
 3101 TCCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCT
 41 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 D Q
 StuI (3071)

3201 GCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTG
 8 Q S I N F T K M
 XmnI (3213) AseI (3279)

3301 GATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGGCTACCGCCATTGCGTCAATGGGGCGGA
 BspHI (3221)

3401 GTTGTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAA
 SpeI (3434)

3500 CCGCTATCCACGCCATTGATGTAAGTCCGATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCATAAG
 SnaBI (3562)

3600 GTCATGTAAGTGGCATAATGCCAGGCGGGCCATTTACCGTATTGACGTCATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGG
 NdeI (3667)

3700 CAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCATGGGGGGGGT
 NdeI (3667)

3800 GTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTATGTAACCGCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G C C A G A A A G C C A G G A A
 SdaI (3845) PacI (3853) BspLU11I (3863)

3898 CCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACA
 BspLU11I (3863)

3998 GGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTT
 BspLU11I (3863)

4098 CGGGAAGCGTGGCGCTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCA
 ApaLI (4177)

4198 GCCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAAACAGGATTAGC
 ApaLI (4177)

4298 AGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGC
 ApaLI (4177)

4398 CAGTTACCTTCGAAAAAGATTGGTAGCTCTTGTATCCGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGGTTTGAAGCAGCAGATTACGCGCAG
 ApaLI (4177)

4498 AAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA
 PacI (4593)

4598 TTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTTGTGTAATCGTAACATAACGCTCTCCATCA
 EagI (4613) NotI (4612) SwaI (4602)

4698 AAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCGAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA