



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) HindIII (245) Bsu36I (291)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC EcoNI (287)

301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTAGGAGGGCCACCATGGCTTTGTGCATATCAGATGTTGTGT AgeI (552) NcoI (568)
1 M A F V H I R C L C BamHI (674)

601 TTCATTCTCTTTGTACAATAACTGGCTATTCTTTGGAGATAAAAGTTAATCCTCCTCAGGATTTGAAATATTGGATCTGGATTACTTGGTTATCTCT Bsu36I (654) SspI (668)
11 F I L L C T I T G Y S L E I K V N P P Q D F E I L D P G L L G Y L

701 ATTTGCAATGAAACCTCCTGTGGTTATAGAAAAATTTAAGGGCTGTACACTAGAATATGAGTTAAAATACCGAAATGTTGATAGCGACAGCTGGAAGAC PvuII (788)
44 Y L Q W K P P V V I E K F K G C T L E Y E L K Y R N V D S D S W K T

BsiWI (867)
801 TATAAATACTAGGAATCTAATTTACAAGGATGGGTTTGATCTTAATAAAGGCATTGAAGGAAAGATACGTACGCATTTGTGAGCAGCATTGTACAATGGA SnaBI (865)
77 I I T R N L I Y K D G F D L N K G I E G K I R T H L S E H C T N G

NcoI (915) HindIII (925) **EcoRV (938)**
901 TCAGAAGTACAAAGTCCATGGATAGAAGCTTCTTATGGGATATCAGATGAAGGAGTTTGGAAACTAAAATTCAGGACATGAAGTGTATATATTATAACT
111 S E V Q S P W I E A S Y G I S D E G S L E T K I Q D M K C I Y Y N

1001 GGCAGTATTTGGTCTGCTTGGAAACCTGGCAAGACAGTATATTCTGATACCAACTATACCATGTTTTCTGGTATGAGGGCTTGGATCATGCCTTACA
144 W Q Y L V C S W K P G K T V Y S D T N Y T M F F W Y E G L D H A L Q

1101 GTGTGCTGATTACCTCCAGCATGATGAAAAAATGTTGGATGCAAACTGTCCAACCTGGACTCATCAGACTATAAAGATTTTTTATCTGTGTTAATGGA
177 C A D Y L Q H D E K N V G C K L S N L D S S D Y K D F F I C V N G

XmnI (1275)
1201 TCTTCAAAGTTGGAACCCATCAGATCCAGCTATACAGTTTTTCAACTTCAAATATAGTTAAACCATTGCCACCAGAATTCTTTCATATTAGTGTGGAGA
211 S S K L E P I R S S Y T V F Q L Q N I V K P L P P E F L H I S V E

EcoO109I (1337)
1301 ATTCCATTGATATTAGAATGAAATGGAGCACACCTGGAGGACCATCCACCAAGGTGTACACTTATGAAATGTGATCCGAGAAGACGATATTTCTGT
244 N S I D I R M K W S T P G G P I P P R C Y T Y E I V I R E D D I S W

1401 GGAGTCTGCCACAGACAAAAACGATATGAAGTTGAAGAGGAGAGCAAATGAAAGTGAAGACCTATGCTTTTTGTAAAGATGTAAGGTCAATATATATTGT
277 E S A T D K N D M K L K R R A N E S E D L C F F V R C K V N I Y C

MscI (1581)
NheI (1575)
1501 GCAGATGATGGAATTTGGAGCGAATGGAGTGAAGAGGAATGTTGGGAAGTTACACAGGGCCAGACTCAAAGTAAAGCTAGCTGGCCAGACATGATAAGAT
311 A D D G I W S E W S E E E C W E G Y T G P D S K •

1601 ACATTGATGAGTTTGACAAACCACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAG

HpaI (1713) MfeI (1724)
1701 CTGCAATAAACAAGTTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAA

1801 TGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATC

SapI (1991)
1901 AGGGGCTGTTGCAATGTGATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTCTCTTCAT

SspI (2048) **SwaI (2062)**
2001 TTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTT

EcoO109I (2123)
2101 ATTAGGCAGAATCCAGATGCTCAAGGCCCTTCAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATGGACAGCAA

2201 GAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAG
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

SacI (2323) **BstXI (2352)**
2301 CAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAG
113 C D P 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

StuI (2487)
2401 CCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCCTCAATGTG
80 V I T 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

2501 GACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCC
47 V A S 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

2601 ACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAA
 13 V L E L D Q Q S I N F T K M

2701 TTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATT
 XmnI (2629) AseI (2695) SacI (2752)

2801 GCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAA
 SpeI (2850)

2901 TCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTA
 SnaBI (2978)

3001 GGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGAT
 NdeI (3083)

3101 GTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGT

3201 CAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGC
 PacI (3269) PstI (3262) SdaI (3261) BspLU11I (3279)

3301 AAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTG

3401 GCGAAACCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCC

3501 GCCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCAGC
 ApaLI (3593)

3601 AACCCCCGTTTCCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGG

3701 TAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGC

3801 GCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTGCAAGCAGC

3901 AGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGT

4001 CATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACAT
 PacI (4009) SmaI (4018) NotI (4028) EagI (4029)

4101 ACGCTCTCCATCAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA