



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGGCC **PvuII (239)** **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NgoMIV (441)
501 TCTGTTCTGGCGGCTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTGAGTGCATCCCGCGGCCCGCGCTCTGGGCGGCTGCGCT **KasI (535)** **AgeI (552)** **SphI (560)** **NsiI (562)**
1▶ M H P A R P A L W A A A L

601 CACTGCCCTCACTCTGCTCCGCGGACCGCGGTGGCGGAGCTGGCGCGGGCGGTTGGGCGCGGCCCGTGGTGGCTGCGAACCTGCGACGCGCGT **SgrAI (626)** **Bsp120I (663)**
13▶ T A L T L L R G P P V A R A G A G A V G A G P V V R C E P C D A R **EcoO109I (663)**

701 GCGCTGTCCAGTGCAGCCTCCGCCCACCGCGCGTGCAGGAGCTGGTGCAGAGCCCGGCTGCGGCTGCTGCCTGACTTGGCGCTGCGCGAAG **RsrII (621)** **ApaLI (738)**
47▶ A L S Q C A P P P T A P A C T E L V R E P G C G C C L T C A L R E

801 GCGACGCTGCGCGTCTACACGAGCGCTGTGGCACCAGCGCTCCGCTGCCAGCCGCGGCCCGGAGCAGTACCCGCTGAGGGCGCTGCTGAATGGCCG **MluI (803)**
80▶ G D A C G V Y T E R C G T G L R C Q P R P A E Q Y P L R A L L N G R

901 CGGTTCTGCGCAACGCCAGCGTGCAGGAGCCTAAGCACCTACCTCCCTCCCACTGCTCCAGGAAACATCAGTGAAGTCCGAGGAGGAGCACAAAT **PstI (923)**
113▶ G F C A N A S A A G S L S T Y L P S Q P A P G N I S E S E E E H N

1001 GCTGGAGTGTGAAAGCCAGTGTGCTCCAGCACACCGAGTGACCGATTCCAAGTCCATCCACTCCATGCCAAGATGGATGTCATCAAAAAAGGCC **DraIII (1036)**
147▶ A G S V E S Q V V P S T H R V T D S K F H P L H A K M D V I K K G

1101 ACGCCAGGACAGCCAGCGCTACAAAGTTGACTATGAGTCTCAAAGCACAGACACCCAGAACTTCTCCTCCGAGTCTAAGCGGAGACAGAATACGGTCC **XmnI (1290)**
180▶ H A R D S Q R Y K V D Y E S Q S T D T Q N F S S E S K R E T E Y G P

1201 CTGCCGAGAAATGGAGACACACTGAATCATCTGAAGTTCCTCAATGTGCTGAGTCCCAGAGCGTCCACATCCCAAAGTGTGACAAGAAGGGGTTCT **XmnI (1290)**
213▶ C R R E M E D T L N H L K F L N V L S P R G V H I P N C D K K G F

1301 TATAAGAAGAAGCAGTGCAGCCCTTCCAAAGCCAGAAAGCGGGCTTCTGCTGGTGTGGACAAGTATGGGAGCCCTTCCAGGCTACGACACCAAGG **BalI (1471)**
247▶ Y K K K Q C R P S K G R K R G F C W C V D K Y G Q P L P G Y D T K **MscI (1471)** **BalI (1471)**

1401 GGAAAGACGACGTACATTGCCTCAGCGTGCAGAGCCAGTAGATGCTCCGTGCCACATAATATGGAGCTAGCTGGCCAGACATGATAAGATACATTGATGA **NheI (1465)**
280▶ G K D D V H C L S V Q S Q •

1501 GTTTGGACAAACCACAAC TAGAATGCAGTGAATAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGTGCATAAAA

HpaI (1603) MfeI (1614) **EcoRI**
1601 CAAGTTAAACAACAACAAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGG

1701 AATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTT

1801 GCCAATGTGATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTCTTTCATTTCTTTATGT

1901 TTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGA

2001 ATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGC **EcoO109I (2013)**

2101 TTCTAGCTTTAGTTCCTGGTACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAG **SacI (2213)** **BstXI (2242)**
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

2201 CATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGT **StuI (2377)** **Eco147I (2377)**
110▶ 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

2301 GTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAG **StuI (2377)** **Eco147I (2377)**
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

2401 ATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCA **EcoRI**
43▶ 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 L

BspHI (2527)

BbsI (2523)

XmnI (2519) AseI (2585)

2501 GATCCTGCTGAGAGATGTTGAAGGCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAC
10 D Q Q S I N F T K M

SacI (2642)

2601 AGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTGGCGTCAATG

SpeI (2740)

2700 GGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGAGACTTGAAATCCCCGTG

SnaBI (2868)
Eco105I (2868)

2799 AGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTC

NdeI (2973)

2899 CCATAAGTCATGTACTGGGCATAATGCCAGGCGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCC
2999 AAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGC

PstI (3152)
SdaI (3151) PacI (3159) BspLU11I (3169)

3099 GGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTG 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 G C C A G A A A A G G
3197 CCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAA
3297 CCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTT

ApaLI (3483)

3397 CTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCC
3497 CCGTTCAGCCCAGCCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAG
3597 GATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTG
3697 CTGAAGCCAGTTACCTTCGGA AAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTA
3797 CGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGC

EagI (3919)
PacI (3899) SwaI (3908) NotI (3918)

3897 TAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCT
3996 CTCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA