



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

301 GCCATCCACGCGGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCAACATGTGGCTCCGAGCCATCGTCAGCTTGCCTGGCCTT **AgeI (552)** **BspEI (569)** **BspLU11I (560)**
1 M W L R S H R Q L C L A F
StuI (669)

601 CCTGCTAGTCTGTGTCCTCTCTGAATCTTCTTCCATATCCATCAAGACAGCTTTCCACATGGCCTAGGCCTGTGATCCTGTGTCAGACCGCCGC **AvrII (666)**
13 L L V C V L S V I F F L H I H Q D S F P H G L G L S I L C P D R R

Bsp120I (747)
EcoO109I (747) 701 CTGGTGACACCCAGTGGCCATCTTCTGCTGCGGGTACTGCGATGGGCCCAACGCCTCCTTCTGTCCCGAGCACCCCTGCTTCCCTCTCCGGCA **EagI (879)**
47 L V T P P V A I F C L P G T A M G P N A S S S C P Q H P A S L S G
80 CCTGGACTGTCTACCCCAATGGCCGTTTGGTAATCAGATGGGACAGTATGCCACGCTGCTGGCTTGGCCAGCTCAACGGCCGCGCTTTATCCT **EagI (879)**
80 T W T V Y P N G R F G N Q M G Q Y A T L L A L A Q L N G R R A F I L

SphI (909)
Ppu10I (907)
NsiI (907) 901 GCCTGCCATGCATGCCGCTGGCCCCGGTATTCCGCATCACCTGCCGTGCTGGCCCCAGAAGTGGACAGCCGCACGCCGTGGCGGGAGTGCAGCTT **DraIII (975)**
113 P A M H A A L A P V F R I T L P V L A P E V D S R T P W R E L Q L
1001 CACGACTGGATGTCGGAGGAGTACGCGGACTTGAGAGATCCTTCTGAAGCTCTCTGGCTTCCCTGCTTGGACTTTCTCCACCATCTCCGGGAAC **DraIII (975)**
147 H D W M S E E Y A D L R D P F L K L S G F P C S W T F F H H L R E
1101 AGATCCGACAGAGGTTACCCTGCACGACCTTCCGGGAAGAGCGCAGAGTGTGCTGGGTACGCTCCGCTGGCCGACAGGGGACCCCGCGCAC **DraIII (975)**
180 Q I R R E F T L H D H L R E E A Q S V L G Q L R L G R T G D R P R T

BbrPI (1213)
XcmI (1212) 1201 CTTTGTGCGCGTCCACGTCGCGCTGGGACTATCTGCAGTTATGCCTCAGCGCTGAAAGGGTGTGGTGGGCGACAGCGCCTACCTCCGGCAGGCCATG **NcoI (1295)**
213 F V G V H V R R G D Y L Q V M P Q R W K G V V G D S A Y L R Q A M
XcmI (1343)

BstEII (1338) 1301 GACTGGTTCGGGCGACGCGACGAAGCCCCGTTTTCTGGTCCAGCACCGGATGGAGTGGTGTAAAGAAAACATGCACACCTCCCAGGGCGATGTGA **DraIII (1452)**
247 D W F R A R H E A P V F V T S N G M E W C K E N I D T S Q G D V

1401 CGTTTGTGGCGATGGACAGGAGGCTACACCGTGGAAAGACTTTGCCCTGCTCACACAGTGAACACACCATATGACCATTGGCACCTTCGGCTTCTG **BglIII (1571)**
280 T F A G D G Q E A T P W K D F A L L T Q C N H T I M T I G T F G F W

Tth111I (1522) 1501 GGCTGCCTACCTGGCTGGCGGAGACTGTCTACCTGGCCAACTTCCACCTGCCAGACTGTAGTTCCTGAAGATCTTTAAGCCGGAGGGCGCTTCTG **BglIII (1571)**
313 A A Y L A G G D T V Y L A N F T L P D S E F L K I F K P E A A F L

AseI (1615) 1601 CCCGAGTGGGTGGGCATTAATGCAGACTTGTCTCCACTCTGGACATTGGCTAAGCCTTGGAGCCAGCTAGCTGGCCAGACATGATAAGATACATTGATG **NheI (1666)**
347 P E W V G I N A D L S P L W T L A K P •

1701 AGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAA

HpaI (1804) 1801 ACAAGTTAAACAACAATTGCATTTATGTTTCAGGTTTCCAGGGGAGGTGTTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATG MfeI (1815)

EcoRI (1900) 1901 GAATTTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGT
2001 TGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTTCTTCTTTTATG

SspI (2139) 2101 TTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAG SwaI (2153)

EcoO109I (2214) 2201 AATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAG

2301 CTTCTAGCTTTGATGCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGA
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

2401 GCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGG
110 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 V I T
SacI (2414) StuI (2578)

2501 TGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGA
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

2601 GATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCC
44 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
BspHI (2728)
BbsI (2724)
XmnI (2720) AseI (2786)

2701 AGATCCTGCTGAGAGATGTTGAAGGCTTCATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAA
10 L D Q Q S I N F T K M
SacI (2843)

2801 CAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCGTCAAT

2900 GGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGT
SpeI (2941)

2999 GAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGT
SnaBI (3069)

3099 CCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGC
NdeI (3174)

3199 CAAGTGGGAGTTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGG

3299 CGGGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAG
SdaI (3352) PacI (3360) BspLU11I (3370)

3397 GCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAA

3497 ACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCT

3597 TCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACC
ApaLI (3684)

3697 CCCGTTGAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACA

3797 GGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCT

3897 GCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATT

3997 ACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGG

4097 CTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCT
PacI (4100) SmaI (4109) EagI (4120) NotI (4119)

4197 CTCCATCAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCGAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA