



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCGCTACCTGAGGGC **HindIII (245)** **Bsu36I (291)**
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCGCTAGGTAAGTTAAAGCTCAGGTCGAGACC
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATGGAGGGTGTGGGTGCCGTGCGCTTCTGGCTCGTGGT **NcoI (560)**
BstEII (555) **KasI (535)** **AgeI (552)** 1 M E G V G A V R F W L V V
601 GTGCGGCTGCTGGCGTTCCCGCCGCGGGCCGAGTCCGTGTGCCCGGAGCGCTGCGACTGCCAGACCCCAACATCTCCTATGCACCAACAGGGGACTT **SacII (622)**
13 C G C L A F P P R A E S V C P E R C D C Q H P Q H L L C T N R G L
701 CGCGTGTACCCAAGACCAGCTCGCTGCCTAGTCCCGAGGACGTGCTCACCTACAGCTTAGGGGCAACTTCATACCAACATCACCGCCTTCGACTTCC **AvrII (756)**
47 R A V P K T S S L P S P Q D V L T Y S L G G N F I T N I T A F D F
801 ACCGTCTGGGGCAGCTCAGACGGCTGGATCTGCAGTACAACAGATCCGTTCTCTCCACCCCAAGACCTTCGAGAAGCTCAGGACTAGAGGAGCTGTA **Th111I (1075)**
80 H R L G Q L R R L D L Q Y N Q I R S L H P K T F E K L S R L E E L Y
901 CCTGGGAACAACCTCTTGCAGGCGCTGTTCTTGGCACGTTGGCTCCGCTGCGCAAGTTGCGCATCCTTTACGCCAACGGCAACGAGATTGGACGCTG **147 S R G S F E G L E S L V K L R L D G N V L G A L P D A V F A P L G**
113 L G N N L L Q A L V P G T L A P L R K L R I L Y A N G N E I G R L

1101 ACCTGCTCTACCTACACCTGGAATCTAACCGGATCCGTTTTTGGGCAAGAAGCCTTCAGCCAGCTGGGTAAGTTCGATTCCCTCAATCTCTCGGCCAA **BamHI (1130)** **XmnI (1149)** **HindIII (1171)**
180 N L L Y L H L E S N R I R F L G K N A F S Q L G K L R F L N L S A N
1201 CGAGTGAACCCCTCTGCGCCACGCGCCACCTTTGCTCCTGCGCTCCCTCTACTCTCATCTCTCAGCCAACAGCCTACAGCACCTCGGCCCC **AvrII (1323)**
213 E L Q P S L R H A A T F V P L R S L S T L I L S A N S L Q H L G P
1301 CGCGTCTCCAGCACCTGCCACGCTAGGCCTGCTCTCCCTCAGTGGAAACCAGCTCACGCACCTCGCCCAGAGGCCTTTGGGGACTGGAGGCCCTGC **BstEII (1417)**
247 R V F Q H L P R L G L L S L S G N Q L T H L A P E A F W G L E A L
1401 GTGAGCTGCGCCTGGAAGGTAACCGGCTGAACCAGCTCCCCCTGACACTGCTGGAGCCTTGCACAGCTTGGAGGCACCTAGACCTGAGTGGAATGAGCT **SfiI (1525)**
280 R E L R L E G N R L N Q L P L T L L E P L H S L E A L D L S G N E L
1501 TTCTGCTCTGCACCTGCCACCTTTGGCCACGAGGGCCGCTCCGTGAGCTCAGCCTGCGGACAACGCGCTCAGCGCCCTTTCTGGGACATCTTTGCC **XbaI (1626)**
313 S A L H P A T F G H Q G R L R E L S L R D N A L S A L S G D I F A
1601 GCCAGTCCGGCTCTCTACCGGCTGGATCTAGACGGCAATGTTGGACCTGCGACTGCCGGTTGCGGGTCTGAAACGCTGGATGGGCAACTGGCATTCTC **BamHI (1806)** **SdaI (1882)**
347 A S P A L Y R L D L D G N G W T C D C R L R G L K R W M G N W H S
1701 AGGTGCGCTCTTACGGTCTTGTGAGTGTGCCACCCCGGCCCTGCGGGCAAGTACCTGGATTACCTGACCAACTGACAGCTGAGGATGGGTC **BstXI (1976)**
380 Q G R L L T V F V Q C R H P P A L R G K Y L D Y L D D Q L L Q N G S
1801 TTGCGTGGATCCCTCACCTTCCCTACAGCAGGCGAGTAGGCGTGGCCGCTACCCACATCGTCAGAAGAGGGGATGACGCCCTTGCAGGCTCTCGCAG **Th111I (2024)** **Bsp120I (2040)**
413 C V D P S P S P T A G S R Q W P L P T S S E E G M T P P A G L S Q
1901 GAGCTACCACTGCAGCCGACGGCAGCCCGAGCAGCGGGGAAGACTTCTACCAGGAGTGGCTGGGGTGGGGCTGCCAAGGAAGTGGTGGGCAACCGCA **BssHII (2199)**
447 E L P L Q P Q P Q Q R G R L L P G V A W G G A A K E L V G N R
2001 GCGCATTAAAGTTGAGCCGGCGGGACAGTCCCATCAGGGCCCTCTGCTGCGGCTCCGGCTCTGCCCCACAGTCTTGGACCTGCACGAGAAGCC **NruI (2373)** **EagI (2392)**
480 S A L R L S R R G P G P H Q G P S A A A P G S A P Q S L D L H E K P
2101 GGGGAGAGGACGTACACACCCGAGCAATCTCTCCAGACGGAGCCACCCCGACGTCTGAGCCCGCTCTGGGACACCATCTGCCAGAGACAGCTGGCAG **SalI (2632)** **PshAI (2649)**
513 G R G R H T R A N L S Q T E P T P T S E P A S G T P S A R D S W Q
2201 CGCGCAGCAAAGCAGCGCCTAGCGTCCGAGCAGCAAGAGAGCGCAGTCCAGTCCGTTAGTGGGGTGGTTTGGCCACCTCTGGTGTCTGACCCCTGACT **SalI (2632)** **PshAI (2649)**
547 R A A K Q R L A S E Q Q E S A V Q S V S G V G L P P L V S D P C D
2301 TCAACAAATTCATTCTGTGCAACCTGACAGTAGAGCGGTGAGCGCCAACAGCGCCTCGGTGCGCTGGGCGGTTCCGCAACACCCGAGTCCCGCCGCA **SalI (2632)** **PshAI (2649)**
580 F N K F I L C N L T V E A V S A N S A S V R W A V R E H R S P R P Q
2401 GGGCGGCGCAGCTTCCGCTGCTTTTTCGACCGCTTTGGCCAGCAGCCAAAGTTCAGCGCTTCTGCTACCTGCGGAGCGCAGCGACTCGGCCACGCTG **SalI (2632)** **PshAI (2649)**
613 G G A R F R L L F D R F G Q Q P K F Q R F V Y L P E R S D S A T L
2501 CAGGACTGCGCGGAGACACCCCTACCTAGTATGCGTGGAGGGTGTGCTCGGGGTCGCGTTTGCCTCGTGGCCCCGAGACCACTGCGCAGGGTTAG **SalI (2632)** **PshAI (2649)**
647 H E L R G D T P Y L V C V E G V L G G R V C P V A P R D H C A G L
2601 TAACCCTGCCAGAGGCGAGGTCGAGGTGGCGTTCGACTACCACTGCTGACCTTGGCTTGTGCTGGCTGTCAACGCGCTTCTGGTGTCTTGGCACTGGC **SalI (2632)** **PshAI (2649)**
680 V T L P E A G G R G G V D Y Q L L T L V L L A V N A L L V L L A L A

NruI (2710) Bsp120I (2753) BspLU11I (2774)
 2701 AGCCTGGGATCGCGATGGCTGCGGAGGAAGCTGCGTGCCAGGCGGAAGGGAGGGCCCCGGTCCACGTTCCGCACATGTACTCCACCCGACGGCCACTG
 713▶ A W G S R W L R R K L R A R R K G G A P V H V R H M Y S T R R P L

NcoI (2804) SacII (2822) DraIII (2862) BssHII (2870)
 2801 CGCTCCATGGGACTGGTGTGTCCGCGGACTTCTCAGGCTTCCAGTCGCACCGTCCCCGACCCACCGTGTGCGCGCTCAGCGAGGCCACCTCATTGAGT
 747▶ R S M G T G V S A D F S G F Q S H R P R T T V C A L S E A D L I E

Asp718I (2935) Acc65I (2935) SgrAI (2925)
 2901 TCCCTGCGACCGCTTTCATGACAGCACCGCGGTGGTACCAGTGGCAGCTTGGAGCGGGAGGATCACCTCTTCAAAGATTGCTGACTAGGCAATGCC
 780▶ F P C D R F M D S T G G G T S G S L R R E D H L L Q R F A D •

NheI (3031)
 3001 TTGGGATCTCACAGGCCTAAGGAGCCACTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAA

HpaI (3169) MfeI (3180)
 3101 AAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCAATTTATGT

EcoRI (3265)
 3201 TTCAGTTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCT
 3301 CCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCT
 3401 CTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGTTTGAAGTACTGCTCTTCAATTTCTTATGTTTAAATGCACTGACCTCCACATTCCCTTTTA

SspI (3504) SwaI (3518)
 3501 GTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCC
 3601 AGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGGA
 141▶ • N R T Y K L P I

BstXI (3808)
 3701 TGAGTTCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACA
 132▶ L E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C M G C

3801 GGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGAC
 99▶ P S V V R I S R D V E D S Y P H R V A V I T D F D K Q G N S V A S

3901 CCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCC
 65▶ G I A I A E A C V T V R G I Y A E I H V A S I I E G T K T R I A A G

BspHI (4093) XmnI (4085)
 4001 CGACATGGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGAT
 32▶ V H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T K M ◀

AseI (4151)
 4101 GGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGT
 4200 TCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCG

SpeI (4306)
 4300 TTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGACTG

SnaBI (4434)
 4399 CAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCCATAAAGTCATGACTGGGCATAATGCCAGGCG

NdeI (4539)
 4499 GGCCATTTACCGTATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATT
 4599 GACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGCGGTGAGCCAGGCGGGCCATT

SdaI (4717) PaeI (4725) BspLU11I (4735)
 4699 TACCGTAAGTTATGTAACGCTGCGAGGTTAAATAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAGGCCGCTTGGTGGCGTT
 4797 TTTCCATAGGCTCCGCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCC
 4897 CCTGGAAGCTCCCTGTCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCT

ApaLI (5049)
 4997 CACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGACCCGACCGCTGCGCCTTATCCGGTAA
 5097 CTATCGTCTTGTAGTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA
 5197 GAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTGCTGTAAGCCAGTTACCTTCGAAAAAGAGTTGGTA
 5297 GCTCTTGTACCGCAAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

EagI (5485) PaeI (5465) SwaI (5474) NotI (5484)
 5397 GATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATA

5497 AAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAACGAAACAAACAAACTAGC
 5597 AAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTTATCGAA