



PvuI (7)
SgfI (6)
 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTTCACGCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGCGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)** **BspLU11I (560)**
 501 TCTGTTTCCGCGCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCAACATGTCCTGCTCTTCTCTCGATGCAACTCTATCGTCAC
 1▶ M S L L F S R C N S I V T

Ppu10I (635)
NsiI (635)
 601 AGTCAAGAAAAATAAGAGACACATGGCTGAGGTGAATGCATCCCCACTTAAGCACTTTGTCTACTGCCAAGAAGAAGATCAATGGCATTTTTGGAGCAGCTG
 13▶ V K K N K R H M A E V N A S P L K H F V T A K K K I N G I F E Q L

BstEII (799)
 701 GGGCCTACATCCAGGAGAGCGCCACCTTCTTGAAGACAGTACAGGAATGCAGAACTGGACCCGTTACCACAGAAGAAGAGTTCTGGACGTCAAAG
 47▶ G A Y I Q E S A T F L E D T Y R N A E L D P V T T E E Q V L D V K
 801 GTTACCTATCCAAAGTGAAGGCATCAGTGAGGTGCTGGCTCGGAGGCACATGAAAGTGGCTTTTTTGGCCGGACGAGCAATGGGAAGAGCACCGTGAT
 80▶ G Y L S K V R G I S E V L A R R H M K V A F F G R T S N G K S T V I

StuI (989)
 901 CAATGCCATGCTCTGGGACAAAGTTCTGCCCTCTGGGATTGGCCACACCACCAATTGCTTCTCGGGTAGAGGGCACAGATGGCCATGAGGCCCTTCTC
 113▶ N A M L W D K V L P S G I G H T T N C F L R V E G T D G H E A F L

NgoMIV (1084)
NaeI (1084)
 1001 CTTACCGAGGGCTCAGAGGAAAAGAGGAGTGCCAAAGACTGTGAACCAGCTGGCCCATGCCCTCCACCAGGACAAGCAGCTCCATGCCGGCAGCCTAGTGA
 147▶ L T E G S E E K R S A K T V N Q L A H A L H Q D K Q L H A G S L V
 1101 GTGTGATGTGGCCAACTCTAAGTGCCACTTCTGAAGGATGACCTCGTTTTGATGGACAGCCCTGGTATTGATGTCACCACAGAGCTGGACAGCTGGAT
 180▶ S V M W P N S K C P L L K D D L V L M D S P G I D V T T E L D S W I

DraIII (1285)
 1201 TGACAAGTTTTGTCTGGATGCTGATGTGTTGTCTGGTGGCCAACTCAGAGTCCACCCTGATGCAGACGAAAAGCACTTCTCCACAAGGTGAGTGAG
 213▶ D K F C L D A D V F V L V A N S E S T L M Q T E K H F F H K V S E

Ppu10I (1343)
NsiI (1343)
 1301 CGTCTCTCCCGGCCAAACATCTTATCCTGAACAACCGCTGGGATGCATCTGCCTCAGAGCCCGAGTACATGGAGGAGGTGCGGCGGCAGCACATGGAGC
 247▶ R L S R P N I F I L N N R W D A S A S E P E Y M E E V R R Q H M E

XcmI (1406) **ClaI (1439)**
 1401 GTTGATCCAGCTTCTGTTGGATGAGCTGGCGTGGTGGATCGATCCAGGCCGGGACCGCATCTTCTTTGTCTGCTAAGGAGGTGCTCAACGCCAG
 280▶ R C T S F L V D E L G V V D R S Q A G D R I F F V S A K E V L N A R
 1501 GATTGAGAAAGCCAGGCATGCCTGAAGGAGGGGCGCTCTCGCAGAAGCTTCAAGTGAAGTGTGTTGAGTTCAGAAATTTGAGAGGAGATTTGAG
 313▶ I Q K A Q G M P E G G A L A E G F Q V R M F E F Q N F E R R F E

RsrII (1646)
 1601 GAGTGCATCTCCAGTCTGCAGTGAAGACCAAGTTTGGAGCAGCACACGGTCCGGGCCAAGCAGATTGCAGAGGCGGTTGACTCATGACTCCCTGC
 347▶ E C I S Q S A V K T K F E Q H T V R A K Q I A E A V R L I M D S L

BsrBI (1747)
 1701 ACATGGCGGCTCGGAGCAGCAGGTTTACTGCGAGGAAATGCGTGAAGAGCGGCAAGACCGACTGAAATTTATTGACAAAACAGCTGGAGCTCTTGGCTCA
 380▶ H M A A R E Q Q V Y C E E M R E E R Q D R L K F I D K Q L E L L A Q

SalI (1851) **KasI (1877)**
 1801 AGACTATAAGCTGCGAATTAAGCAGATTACGGAGGAAGTGAGAGGCAGGTGTCAGTCAATGGCCGAGGAGATCAGCGCCTCTGTACTGTTGGAC
 413▶ D Y K L R I K Q I T E E V E R Q V S T A M A E E I R R L S V L V D

Tth111I (1979) **BspLU11I (1991)**
 1901 GATTACCAGATGGACTTCCACCCTTCTCCAGTAGTCTCAAGTGTATAAGAATGAGCTGCACCGCCACATAGAGGAAGGACTGGGTCGAAACATGTCTG
 447▶ D Y Q M D F H P S P V V L K V Y K N E L H R H I E E G L G R N M S
 2001 ACCGCTGCTCCACGCCATCACCACTCCTGACAGCCATGCAGCAGGACATGATAGATGGCTTGAACCCCTCTTCTGTCTGTCGCGGAGTCAGAT
 480▶ D R C S T A I T N S L Q T M Q Q D M I D G L K P L L P V S V R S Q I
 2101 AGACATGCTGGTCCACGCCAGTCTTCTCCCTCAACTATGACCTAAACTGTGACAAGCTGTGTGCTGACTTCCAGGAAGACATTGAGTTCATTCTCT
 513▶ D M L V P R Q C F S L N Y D L N C D K L C A D F Q E D I E F H F S

Bsp120I (2232) **Tth111I (2272)**
 2201 CTCGGATGGACATGCTGGTGAATAGTTCTTGGGCCCAAGAAGCCGCTCGGGCCTTATGGGCTACAATGACCAGGTCCAGCGTCCCATCCCTCTGA
 547▶ L G W T M L V N R F L G P K N S R R A L M G Y N D Q V Q R P I P L

BstEII (2370)
 2301 CGCAGCCAAACCCAGCATGCCCCACTGCCACAGGGCTCGCTCACCCAGGAGGATTCATGGTTTCCATGGTTACCGCCTGGCCTCCTTGACATCCAG
 580▶ T P A N P S M P P L P Q G S L T Q E E F M V S M V T G L A S L T S R

NcoI (2405) **XcmI (2396)**
 2401 GACCTCCATGGGCATTCTTGTGTTGGAGGAGTGGTGTGGAAGCAGTGGGCTGGCGGCTCATTGCCCTCTCCTTTGGGCTCTATGGCCTCCTCTACGTC
 613▶ T S M G I L V V G G V V W K A V G W R L I A L S F G L Y G L L Y V

2501 TATGAGCGTCTGACCTGGACCACCAAGGCCAAGGAGAGGGCCTTCAAGCGCCAGTTTGTGGAGCATGCCAGCGAGAAGCTGCAGCTTGTTCATCAGCTACA
647▶ Y E R L T W T T K A K E R A F K R Q F V E H A S E K L Q L V I S Y

2601 CTGGCTCCAACCTGACGCCACCAAGTCCAGCAGGAACTGTCTGGACCTTTGCTCATCTGTGTGAGCAAGTTGACGTACCCGGGAGAACCTGGAGCAGGA
680▶ T G S N C S H Q V Q Q E L S G T F A H L C Q Q V D V T R E N L E Q E

XmaI (2678)

BspLU111

2701 AATTGCCGCCATGAACAAGAAAATTGAGTTCTTGACTCACTTCAGAGCAAAGCAAAGCTGCTCAGGAATAAAGCCGGTTGGTTGGACAGTGAGCTCAAC
713▶ I A A M N K K I E V L D S L Q S K A K L L R N K A G W L D S E L N

NheI (2850)

Bsu36I (2842)

2801 ATGTTACACACACAGTACCTGCAGCCCAGCAGATAGTGGGCACCTGAGGCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCCAC
747▶ M F T H Q Y L Q P S R •

HpaI (2988)

2901 AACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAACAAACAAC

EcoRI (3084)

3001 AATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAG

3101 CATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAG

3201 CTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTCTTCTCATTCTTTATGTTTTAAATGCACTGAC

SspI (3323)

SwaI (3337)

3301 CTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAG

3401 GCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTC

141 • N

3501 CTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGA
138▶ 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 S I L

3601 GCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCCAATGGTGTCAAAGTCTTCTG
105▶ 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 D K Q

StuI (3762)

3701 CCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTC
72▶ 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 E G T

3801 TTGGTCTGATGGCCGCCGACATGGTCTTGTTCCTCATAGAGCATGGTGTCTTCTCAGTGGCAGCTCCACCAGCTCCAGATCCTGCTGAGAGA
38▶ 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 Q S I

BspHI (3912)

AseI (3970)

3901 TGTGAAGTCTTCATGATGGCCCTCTATAGTGAAGTATTATACTATGCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTC
5▶ N F T K M

4001 TCCAGCTATCTGACGGTTCACAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTAC

SpeI (4125)

4100 GACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATGACGTCAATGGGGTGGAGACTTGAAATCCCCTGAGTCAAACCGCTATC

SnaBI (4253)

4199 CACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGTGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTA

NdeI (4358)

4299 CTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTAC

4399 CGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGAAACATACGTCAATTATTGACGTCAATGGGCGGGGTCTTGGCGC

SdaI (4536)

PacI (4544)

BspLU111 (4554)

4499 GTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTG 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 C C A G G A A C C G T A A A A

4597 A G G C C G C G T T G C T G G C G T T T T C C A T A G G C T C C G C C C C T G A C G A G C A T C A C A A A A T C G A C G C T C A A G T C A G A G G T G G C G A A A C C C G A C A G G A C T A T A

4697 A A G A T A C C A G G C G T T T C C C C T G G A A G C T C C C T G T G C G C T C C T G T T C C G A C C C T G C G C T T T C C C T T C G G G A A G C

ApaLI (4868)

4797 G T G G C G T T T C T C A T A G C T C A G C T G T A G G T A T C T C A G T T C G G T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C G T T C A G C C G A C C

4897 G C T G C G C T T A T C C G G T A A C T A T C G T C T T G A G T C C A A C C C G T A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G

4997 G T A T G T A G G C G G T G T A C A G A G T T C T T G A A G T G G T G G C T A A C T A C G G C T A C T A G A A G A A C A G T A T T T G G T A T C T G C G C T C T G C T G A A G C C A G T T A C C

5097 T T C G A A A A A G A G T T G T A G C T C T T G A T C C G G C A A A C A A A C C C G C T G G T A G C G G T G T T T T T T G T T T G C A A G C A G C A G A T T A C G C G C A G A A A A A A A G

PacI (5284) SwaI (5293)

5197 G A T C T C A A G A A G A T C C T T T G A T C T T T T A C G G G G T C T G A C G C T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T

EagI (5304)

NotI (5303)

5297 T A A A T C A G C G G C C G C A A T A A A A T C T T T A T T T T C A T T A C A T C T G T G T T G G T T T T T G T G T A A T C G T A A C T A A C A T A C G C T C C A T C A A A A C A A A A

5397 C G A A A C A A A C A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A A G T G C A G G T G C C A G A A C A T T T C T A T C G A A