



PvuI (7)
SgfI (6)
1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCCATCATGGGTGAAACTCTGGGAGATTCTCCTATTGACCCAG

1 M G E T L G D S P I D P

NcoI (651)
601 AAAGCGATTCTTCACTGATACACTGTCTGCAAAACATATCACAAGAAATGACCATGGTTGACACAGAGATGCCATTCTGGCCACCAACTTTGGGATCAG

13 E S D S F T D T L S A N I S Q E M T M V D T E M P F W P T N F G I S

EcoRV (743)
701 CTCGTGGATCTCTCCGTAATGGAAGACCACTCCCACTCCTTTGATATCAAGCCCTTCACTACTGTTGACTTCTCCAGCATTCTACTCCACATTACGAA

46 S V D L S V M E D H S H S F D I K P F T T V D F S S I S T P H Y E

801 GACATTCATTCAAGAAGCAGATCCAGTGGTTGCAGATTACAAGTATGACCTGAAACTTCAAGAGTACCAAAGTGAATCAAAGTGGAGCCTGCATCTC

80 D I P F T R T D P V V A D Y K Y D L K L Q E Y Q S A I K V E P A S

SapI (944)
BspHI (940) **XcmI (954)**
901 CACCTTATTATTCTGAGAAGACTCAGCTCTACAATAAGCCTCATGAAGAGCCTTCCAACCTCCCTCATGGCAATTGAATGTCGTGTCTGTGGAGATAAAGC

113 P P Y Y S E K T Q L Y N K P H E E P S N S L M A I E C R V C G D K A

BspEI (1050)
1001 TTCTGATTTCACTATGGAGTTCATGCTGTGAAGGATGCAAGGGTTCTTCCGGAGAACAATCAGATTGAAGCTTATCTATGACAGATGTGATCTTAAC

146 S G F H Y G V H A C E G C K G F F R R T I R L K L I Y D R C D L N

BamHI (1104) **ScaI (1134)**
1101 TGTCGGATCCACAAAAAAGTAGAAATAAATGTCAGTACTGTCCGTTTCAGAAATGCCTTGCAGTGGGGATGTCTCATAATGCCATCAGGTTTGGCGGA

180 C R I H K K S R N K C Q Y C R F Q K C L A V G M S H N A I R F G R

BglII (1233) **EcoRV (1244)** **Bsp120I (1281)**
1201 TGCCACAGGCCGAGAAGGAGAAGCTGTTGGCGGAGATCTCCAGTGATATCGACCAGCTGAATCCAGAGTCCGCTGACCTCCGGGCCCTGGCAAAACATTT

213 M P Q A E K E K L L A E I S S D I D Q L N P E S A D L R A L A K H L

1301 GTATGACTCATAATAAGTCTTCCCGCTGACCAAAGCAAAGCGAGGGCGATCTTGACAGGAAAGACAACAGACAAATCACCATTCTGTTATCTATGAC

246 Y D S Y I K S F P L T K A K A R A I L T G K T T D K S P F V I Y D

EcoRI (1402) **MscI (1476)**
1401 ATGAATTCCTAATGATGGGAGAAGATAAAATCAAGTTCAAACACATCACCCCTGCAGGAGCAGAGCAAAGGTTGCCATCCGCATCTTTCAGGGCT

280 M N S L M M G E D K I K F K H I T P L Q E Q S K E V A I R I F Q G

1501 GCCAGTTTCGCTCCGTGGAGGCTGTGCAGGAGATCACAGAGTATGCCAAAAGCATTCTGTTTTGTAATCTTGACTTGAACGCCAAGTAACTCTCCT

313 C Q F R S V E A V Q E I T E Y A K S I P G F V N L D L N D Q V T L L

BspHI (1686)
1601 CAAATATGGAGTCCACGAGATCATTTACACAATGCTGGCCTCCTTGATGAATAAAGATGGGGTTCTCATATCCGAGGGCCAAGGCTTCATGACAAGGGAG

346 K Y G V H E I I Y T M L A S L M N K D G V L I S E G Q G F M T R E

1701 TTTCTAAAGAGCCTGCGAAAGCCTTTTGGTACTTTATGGAGCCAAAGTTTGGATTTGCTGTGAAGTTCAATGCACTGGAATTAGATGACAGCGACTTGG

380 F L K S L R K P F G D F M E P K F E F A V K F N A L E L D D S D L

SspI (1801)
1801 CAATATTTATTGCTGTCATTATTCTCAGTGGAGACCGCCAGTGTGCTGAATGTGAAGCCATTGAAGACATTCAAGACAACCTGCTACAAGCCCTGGA

413 A I F I A V I I L S G D R P G L L N V K P I E D I Q D N L L Q A L E

BstAPI (1996)
1901 GCTCCAGCTGAAGCTGAACCACCTGAGTCTCACAGCTGTTTCCAAGTGTCCAGAAAATGACAGACCTCAGACAGATTGTCACGGAACACGTCAG

446 L Q L K L N H P E S S Q L F A K L L Q K M T D L R Q I V T E H V Q

BsrBI (2045) **BglII (2058)**
2001 CTAAGTGCAGTCAAGAAGACGGAGACAGACATGAGTCTTACCCGCTCCTGCAGGAGATCTACAAGGACTTGTACTAGCAGAGAGTCTGAGCCACT

480 L L Q V I K K T E T D M S L H P L L Q E I Y K D L Y •

MscI (2106)
NheI (2100)
2101 GCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTA

HpaI (2238)
2201 TTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAACATTCATTCTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTT

2301 T TAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCT
EcoRI (2334)

2401 GAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTT

2501 C CCAAGTTTGAAGTACTAGCTCTTCATTTCTTTATGTTTTAAATGCAGTACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATC
SapI (2516) SspI (2573) SmaI (2587)

2601 A TTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGA
EcoO109I (2648)

2701 A C C T T T A A T A G A A A T T G G A C A G C A A G A A G C G A G C T T C T A G C T T T A G T T C T G G T G T A C T T G A G G G G G A T G A G T T C C T C A A T G G T G G T T T T G A C C A G C T T
141 • N R T Y K L P I L E E I T T K V L K

2801 G C C A T T C A T C T C A A T G A G C A C A A A G C A G T C A G G A G C A T A G T C A G A G A T G A G C T C T C G C A C A T G C C A C A G G G G C T G A C C A C C T G A T G G A T C T G T C C A C C
BstXI (2877)

122 G N M E I L V F 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

2901 T C A T C A G A G T A G G G G T G C C T G A C A G C C A C A A T G G T G T C A A A G T C C T T C G C C C G T T G C T C A C A G C A G A C C C A A T G G C A A T G G C T T C A G C A C A G A C A G T G A
88 E D S Y P H R V A 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

3001 C C C T G C C A A T G T A G G C C T C A A T G T G G A C A G C A G A G A T G A T C T C C C A G T C T T G G T C C T G A T G G C C G C C C G A C A T G G T G C T T G T T G C C T C A T A G A G C A T
StuI (3012)

55 R G I Y A E I H 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

3101 G G T G A T C T T C A G T G G C G A C C T C C A C C A G T C C A G A T C C T G T G A G A G A T G T T G A A G T C T T C A T G G T G G C C C T C C T A T A G T G A G T C G T A T T A C T A C T A T
22 T I K E T A V E V L E L D Q Q S I N F T K M

3201 G C C G A T A T A C T A T G C C G A T G A T T A A T T G T C A A A C A G C G T G G A T G G C G T C T C C A G C T T A T C T G A C G G T T C A C T A A A C G A G C T C T G C T T A T A T A G A C C T C C
AseI (3220)

3301 C A C C G T A C A C G C C T A C C G C C A T T T G C G T C A A T G G G G C G G A G T T G T T A C G A C A T T T T G G A A A G T C C C G T T G A T T A C T A G T C A A A A C A A A C T C C C A T T G A
SpeI (3375)

3401 C G T C A A T G G G G T G G A G A C T T G G A A A T C C C C G T G A G T C A A A C C G C T A T C C A C G C C A T T G A T G T A C T G C C A A A A C C G C A T C A T C A T G G T A A T A G C G A T G A C

3501 T A A T A C G T A G A T G T A C T G C C A A G T A G G A A A G T C C C A T A A A G T C A T G T A C T G G G C A T A A T G C C A G G C G G G C A T T T A C C G T C A T T G A C G T C A A T A G G G G G C
SnaBI (3503)

3601 G T A C T T G G C A T A T G A T A C A C T T G A T G T A C T G C C A A G T G G G C A G T T T A C C G T A A A T A C T C C A C C A T T G A C G T C A A T G G A A A G T C C C T A T T G G C G T T A C T A
NdeI (3608)

3701 T G G A A C A T A C G T C A T T A T T G A C G T C A A T G G G C G G G G T C G T T G G G C G G T C A G C C A G G C G G G C A T T T A C C G T A A G T T A T G T A A C G C T G C A G G T T A A T T
PacI (3794)

3801 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 A A C C G T A A A A G G C C G 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 C T G A C G A G C A T C A C A
BspLUIII (3804)

3901 A A A A T C G A C G C T C A A G T C A G A G T G G C G A A A C C G A C A G G A C T A T A A A G A T A C C A G G C G T T C C C C T G G A A G C T C C C T C G T G C G C T C T C T G T T C C G A C
4001 C C T G C C G T T A C C G A T A C C T G T C C G C T T T C C C T T C G G A A G C G T G G C G C T T T C A T A G C T C A C 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

4101 C G C T 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 C G T T C A G C C C G A C C 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 G G T A A G A C A C G A C T
ApaLI (4118)

4201 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 G T A T G T A G G C G G T G C T A C A G A G T T C T T G A A G T G G T G G C C T A A C T A C G G T A C A C
4301 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 T T C G A A A A A G A G T T G G T A G C T C T T G A T C C G G C A A C A A A C C A C C G C T G G T A G C
4401 G G T G 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 A G A A A A A A G 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 C A C G G G T C T G A C G C T C A G T G G A A C G

4501 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 T A A A T C A G C G G C C G C A A T A A A A T A T C T T A T T T T C A T T A C A T C T G T G T G T G G T
EagI (4554) NotI (4553)

4601 T T T T T G T G T A A T C G T A A C A T A C G C T C T C C A T C A A A A C A A A A C G A A A C A 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
PacI (4534) SmaI (4543)

4701 G A C A T T T C T C T A T C G A A