



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552)
501 TCTGTTTTCGCGCGTTACAGATCCAAGCTGTGACCGGGCGCCTACCTGAGATCACCGGTCACCATGGATTATACACTTGACCTCAGTGTGACAACAGTGAC
1 M D Y T L D L S V T T V T

EcoRV (616)
601 CGACTACTACTACCTGATATCTTCTCAAGCCCCTGTGATGCGGAACCTATTTCAGACAAATGGCAAGTTGCTCCTTGCTGCTTTTATTGCTCCTGTTT
13 D Y Y Y P D I F S S P C D A E L I Q T N G K L L L A V F Y C L L F

Bst1107I (775)
701 GTATTCAGTCTTCTGGAAACAGCCTGGTCATCCTGGTCTTGTGGTCTGCAAGAAGCTGAGGAGCATCACAGATGTATACCTCTTGAACCTGGCCCTGT
47 V F S L L G N S L V I L V L V V C K K L R S I T D V Y L L N L A L

XcmI (852)
801 CTGACCTGCTTTTTGTCTTCTCCTTCCCTTTCCAGACCTACTATCTGCTGGACAGTGGGTGTTTGGGACTGTAATGTCAAAGTGGTGTCTGGCTTTTA
80 S D L L F V F S F P F Q T Y Y L L D Q W V F G T V M C K V V S G F Y

BspHI (938) **Acc65I (953)**
901 TTACATTGGCTTCTACAGCAGCATGTTTTTCATCACCTCATGAGTGTGGACAGGTACCTGGCTGTTGTCATGCCGTGTATGCCCTAAAGGTGAGGACG
113 Y I G F Y S S M F F I T L M S V D R Y L A V V H A V Y A L K V R T

1001 ATCAGGATGGGACAACGCTGTGCCTGGCAGTATGGCTAACCGCCATTATGGCTACCATCCCATTGCTAGTGTTTTACCAAGTGGCCTCTGAAGATGGTG
147 I R M G T T L C L A V W L T A I M A T I P L L V F Y Q V A S E D G

BglII (1145)
1101 TTCTACAGTGTATTTCATTTTACAATCAACAGACTTTGAAGTGAAGATCTTACCAACTTCAAATGAACATTTTAGGCTTGTGATCCATTACCATT
180 V L Q C Y S F Y N Q Q T L K W K I F T N F K M N I L G L L I P F T I

BstXI (1268)
1201 CTTTATGTTCTGCTACATTAATAAATCCTGCACCAGCTGAAGAGGTGCAAAACCACAACAAGACCAAGCCATCAGGTTGGTGTCTATTGTGGTATTGCA
213 F M F C Y I K I L H Q L K R C Q N H N K T K A I R L V L I V V I A

SandI (1313) **BstAPI (1350)**
EcoO109I (1313)
1301 TCTTTACTTTTCTGGGTCCTCAACGTTGTTCTTTTCTCACTTCTTGCACAGTATGCACATCTTGGATGGATGTAGCATAAGCCAAACAGCTGACTT
247 S L L F W V P F N V V L F L T S L H S M H I L D G C S I S Q Q L T

1401 ATGCCACCATGTACAGAAATCATTTCTTTACTCAGTGTGTGAACCTGTTATCTATGCTTTTGGGGAGAAGTTCAAGAAACACCTCTCAGA
280 Y A T H V T E I I S F T H C C V N P V I Y A F V G E K F K K H L S E

SspI (1500) **AvrII (1536)** **AvrII (1552)**
1501 AATATTTTCAGAAAAGTTGCAGCCAAATCTTCAACTACCTAGGAAGACAATGCTAGGGAGAGCTGTGAAAAGTCATCATCCTGCCAGCAGCACTCCTCC
313 I F Q K S C S Q I F N Y L G R Q M P R E S C E K S S S C Q Q H S S

SphI (1671)
1601 CGTTCCTCCAGCGTAGACTACATTTTGTGAGGATCAATGAAGACTAAATATAAAAAACATTTTCTTGAATGGCATGCTAGTAGCAGTGAAGGTTGTG
347 R S S S V D Y I L •

MscI (1716)
NheI (1710)
1701 GGTGTGAAAGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATT

HpaI (1848) MfeI (1859)
1801 TGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGT

EcoRI (1944)
1901 GGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAATAACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGA
2001 ATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTATGAGTAAAGATAT

SapI (2126) **SspI (2183)** **SwaI (2197)**
2101 AGTGTATTTTCCCAAGGTTTGAAGTACTGCTCTTCACTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTTCAGAAATAATT

EcoO109I (2258)
2201 TAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGGACTTAGG
2301 GAACAAAGGAACCTTAAATAGAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTT
141 • N R T Y K L P I L E E I T T K

SacI (2458) **BstXI (2487)**
2401 TGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGTCACATGCCACAGGGGCTGACCACCCTGATGGA
125 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 P S V V R I S

2501 TCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCA
92 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 G I A I A E A

StuI (2622)

2601 CAGACAGTGACCCGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCCT
58 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 V H H K N D E

2701 CATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGT
25 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 (2830) **SacI (2887)**

2801 ATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTAT

SpeI (2985)

2901 ATAGACCTCCCACGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTTGATTTACTAGTCAAAAACAAA

3001 CTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAA

SnaBI (3113)

3101 TAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTC

NdeI (3218)

3201 AATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGGCGAGTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATT

PstI (3397)
SdaI (3396)

3301 GGCCTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCTGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTG

PaeI (3404) **BspLU11I (3414)**

3401 CAGGTTAATTAAAGAACATGTGAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGTGGCGTTTTTCCATAGGCTCCGCCCCCTGAC

3501 GAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTC

3601 CTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGT

ApaLI (3728)

3701 GTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTA

3801 AGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACT

3901 ACGGTACTACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAACAAACCAC

4001 CGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCT

EagI (4164)
PaeI (4144) **Swal (4153)** **NotI (4163)**

4101 CAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGCCGCAATAAAATATCTTTATTTTCATTACATCT

4201 GTGTGTTGGTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAAGTGAAGT

4301 GCAGGTGCCAGAACATTTCTCTATCGAA