



100

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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) HindIII (245) **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGGCC

301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BspLU11I (560)**
501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCAACATGTTGTGGCTGTTCCAATCGCTCCTGTTTGTCTTCTG

601 CTTTGGCCAGGGAATGTAGTTTCAAAAGCAGCTTAACCCATTGATGGTGAACGGGATTCTGGGGAGTCAAGTAACTTCCCTGGAGTTTCTGCA

130 F G P G N V V S Q S S L T P L M V N G I L G E S V T L P L E F P A

Eco72I (787)
BbrPI (787)
701 GGAGAGAAGGTCAACTTCATCACTTGGCTTTTCAATGAAACATCTCTTGCCTTCATAGTACCCATGAAACAAAAGTCCAGAAATCCACGTGACTAATC

470 G E K V N F I T W L F N E T S L A F I V P H E T K S P E I H V T N

EcoRV (891)
Eco32I (891)
801 CGAAACAGGGAAAGCGACTGAACCTCACCCAGTCTACTCCCTGCAACTCAGCAACCTGAAGATGGAAGACACAGGCTCTTACAGAGCCAGATATCCAC

80 P K Q G K R L N F T Q S Y S L Q L S N L K M E D T G S Y R A Q I S T

901 AAAGACCTCTGCAAAGCTGTCCAGTTACTCTGAGGATATTAAGACAAGTGAAGAACATACAAGTTACCAATCACAGTCAGCTATTTTCAAGATATGACC

113 K T S A K L S S Y T L R I L R Q L R N I Q V T N H S Q L F Q N M T

Tth111I (1039)
1001 TGTGAGCTCCATCTGACTTGGCTCTGTGGAGGATGCAGATGACAATGTCTCATTAGATGGGAGGCTTGGGAAACACACTTTCAAGTCAGCCAAACCTCA

147 C E L H L T C S V E D A D D N V S F R W E A L G N T L S S Q P N L

SandI (1109) HindIII (1195)
1101 CTGTCTCTGGGACCCAGGATTCCAGTGAACAGGACTACACCTGCATAGCAGAGAATGCTGTGAGTAAATTTATCCTTCTGTCTCTGCCCCAGAAGCT

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

Ppu10I (1263)
NsiI (1263)
1201 TTGCGAAGATGTTAAAATCAATATACAGATACAAAATGATTCTGTTTATGGTTTCTGGGATATGCATAGTCTTCGGTTTCATCATACTGCTGTTACTT

213 C E D V K I Q Y T D T K M I L F M V S G I C I V F G F I I L L L L

XmnI (1313) **Bsp120I (1350)**
1301 GTTTTGAGGAAAAGAGGATTCCCTATCTTTGTCTACTCAGCGAACACAGGGCCCGAGTCCGCAAGGAACCTAGAGTATGTTTCAAGTGTCTCCAACGA

247 V L R K R R D S L S L S T Q R T Q G P E S A R N L E Y V S V S P T

VspI (1492)
AseI (1492)
1401 ACAACACTGTGTATGCTTCAGTCACTCATTCAAACAGGGAAACAGAAATCTGGACACCTAGAGAAAATGATACTATCACAATTTACTCCACAATTAATCA

280 N N T V Y A S V T H S N R E T E I W T P R E N D T I T I Y S T I N H

MscI (1583)
NheI (1577)
1501 TTCCAAAGAGAGTAAACCACTTTTCCAGGGCAACTGCCCTTGACAATGTCGTGTAAGTTGCTGAAAGGCTCAGAGCTAGCTGGCCAGACATGATAAG

313 S K E S K P T F S R A T A L D N V V •

1601 ATACATTTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATA

HpaI (1715) MfeI (1726)
1701 AGCTGCAATAAACAGTTAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACA

EcoRI (1811)
1801 AATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCA

1901 TCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTCTCTTC

SspI (2050) SwaI (2064)
2001 ATTTCTTTATGTTTTAAATGCAGTACCTCCACATTCCTTTTATGATAAATATTGAGAAATATTTAAATACATCATTGCAATGAAAATAAATGTTTT

2101 TTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTATGAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTTGGACAGC

2201 AAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAA

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

BstXI (2354)
2301 AGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGAC

114 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 E D S Y P H R V

2401 AGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAAATGGCAATGGCTTCAGCACAGACAGTGACCTGCCAATGTAGGCCTCAATG
 81 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 R G I Y A E I
 2501 TGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCT
 47 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 T I K E T A V E
BspHI (2639) VspI (2697)
XmnI (2631) AseI (2697)
 2601 CCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTTCTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATT
 14 V L E L D Q Q S I N F T K M
 2701 AATTGTCAAACACAGCGTGGATGGCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCAT
SpeI (2852)
 2801 TTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGG
SnaBI (2980)
Eco105I (2980)
 2900 AAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA
NdeI (3085)
 3000 GTAGGAAAGTCCATAAGGTCATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA
 3100 GATGTAAGTCCATAAGGTCATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA
PstI (3264)
SdaI (3263) PacI (3271) BspLU11I (3281)
 3200 CGTCAATGGGCGGGGTCGTTGGGCGGTGACCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTG 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
 3298 CCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAG
 3398 AGGTGGCGAAACCCGACAGGACTATAAAGATACAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACC
ApaLI (3595)
 3498 TGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGT
 3598 GCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCC
 3698 ACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGCAGTATTTGGTA
 3798 TCTGCGCTCTGCTGAAGCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTCGAA
 3898 GCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATT
EagI (4031)
PacI (4011) SwaI (4020) NotI (4030)
 3998 TTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACT
 4098 AACATACGCTCTCCATCAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCAAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA