



PvuI (7)
SgfI (6)
MfeI (82)

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

Psp1406I (203)
PvuII (239)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCGCTACCTGAGGGC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCAGCTTTGCCTGACCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGTCATCATGACAGCCATCATCAAAGAGATCGTTAGCAGAAAACAA

AgeI (552) BspHI (560)

▶
1▶ M T A I I K E I V S R N K

EcoRV (605)
Bst1107I (694)

601 AAGGAGATATCAAGAGGATGGATTGCAGTTAGACTTGACCTATATTTATCCAATATTATTGCTATGGGATTTCTGCAGAAAAGCTTGAAGGTGTATAC

13▶ R R Y Q E D G F D L D L T Y I Y P N I I A M G F P A E R L E G V Y

701 AGGAACAATATTGATGATGTAGTAAGTTTTGGATTCAAAGCATAAAAACATTACAAGATATACTATGTGCTGAGAGACATTATGACACCGCCA

47▶ R N N I D D V V R F L D S K H K N H Y K I Y N L C A E R H Y D T A

BbsI (832) **BglIII (879)**

801 AATTTAACTGCAGAGTTGCACAGTATCCTTTTGAAGACCATAACCCACCACAGCTAGAACTTATCAAACCTTCTGTGAAGATCTTGACCAATGGCTAAG

80▶ K F N C R V A Q Y P F E D H N P P Q L E L I K P F C E D L D Q W L S

BsaBI (904)

901 TGAAGATGACAATCATGTTGCAGCAATTCAGTAAAGCTGGAAAGGGACGGACTGGTGAATGATTTGTGCATATTTATTGCATCGGGGCAAATTTTTTA

113▶ E D D N H V A A I H C K A G K G R T G V M I C A Y L L H R G K F L

1001 AAGGCACAAGAGGCCCTAGATTTTTATGGGGAAGTAAGGACCAGAGACAAAAGGGAGTCACAATCCAGTCAGAGGCGCTATGTATATTATTATAGCT

147▶ K A Q E A L D F Y G E V R T R D K K G V T I P S Q R R Y V Y Y Y S

XmnI (1162)

1101 ACCTGCTAAAAATCACCTGGATTACAGACCCGTGGCACTGCTGTTTACAAGATGATGTTTGAACATTTCCAATGTTCAAGTGGCGGAACTTGAATCC

180▶ Y L L K N H L D Y R P V A L L F H K M M F E T I P M F S G G T C N P

1201 TCAGTTTGTGGTCTGCCAGTAAAGGTGAAGATATATTCTCCAATTCAGGACCCACGCGCGGGAGGACAAGTTCATGTACTTTGAGTTCCCTCAGCCA

213▶ Q F V V C Q L K V K I Y S S N S G P T R R E D K F M Y F E F P Q P

EcoRV (1315)

1301 TTGCTGTGTGGTATCAAAAGTAGAGTTCTTCCACAAAACAGAACAAGATGCTCAAAAAGGACAAAATGTTTCACTTTTGGGTAATACGTTCTTCA

247▶ L P V C G D I K V E F F H K Q N K M L K K D K M F H F W V N T F F

ClaI (1459)

1401 TACCAGGACCAGAGGAAACCTCAGAAAAAGTGAAAATGGAAGTCTTTGTGATCAGGAAATCGATAGCATTTCAGTATAGAGCGTGCAGATAATGACAA

280▶ I P G P E E T S E K V E N G S L C D Q E I D S I C S I E R A D N D K

1501 GGAGTATCTTGTACTCACCTAACAAAAACGATCTTGACAAAGCAAACAAAGACAAGGCCAACCGATACTTCTCCTCAAATTTTAAAGGTGAAACTATAC

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

NheI (1636)

1601 TTTACAAAACAGTAGAGGACCATCAAATCCAGAGGCTAGCAGTTCAACTTCTGTGACTCCAGATGTTAGTGACAATGAACCTGATCATTATAGATATT

347▶ F T K T V E E P S N P E A S S S T S V T P D V S D N E P D H Y R Y

BsaBI (1738)
AvrII (1775)
MscI (1787)

1701 CTGACACCACTGACTCTGATCCAGAGAATGAACCTTTTGTGAAGATCAGCATTACAAAATTACAAAAGTCTGAACCTAGGACTAGCTGGCCAGACATGA

380▶ S D T T D S D P E N E P F D E D Q H S Q I T K V •

1801 TAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCAT

HpaI (1919) **MfeI (1930)**

1901 TATAAGCTGCAATAAACCAAGTTAACCAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTC

EcoRI (2015)

2001 TACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATA

2101 GGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCCTCACCTTCTTCATGGAGTTAAGATATAGTGATTTTCCAAGTGTGAACTAGCT

Swal (2268)

2201 CTTCAATTCCTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTAGAAAATATTAGAAAATATTAAATACATCATTGCAATGAAAATAATG

2301 TTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGA

2401 CAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGC

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

2501 ACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCC
115 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 E D S Y P H R
2601 TGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTC
82 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 R G I Y A E
2701 AATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCG
49 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 T I K E T A
SacI (2529) BstXI (2558)
2801 ACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGAT
15 V E V L E L D Q Q S I N F T K M
AseI (2901) SacI (2958)
2901 GATTAATTGTCAAACACAGCGTGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGC
3001 CCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACT
SpeI (3056)
3101 TGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGC
SnaBI (3184)
3201 CAAGTAGGAAAGTCCATAAGGTCACTGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACA
NdeI (3289)
3301 CTTGATGACTGCCAAGTGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTAT
3401 TGACGTCAATGGGCGGGGTCGTTGGGCGTCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAG
SdaI (3467) BspLU11I (3485)
3501 GCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCA
3601 GAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCTGCCGTTACCGGATAC
3701 CTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTG
ApaLI (3799)
3801 TGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGTAACATATCGTCTTGAAGTCCAAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGC
3901 CACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGT
4001 ATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCA
4101 AGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACTCACGTTAAGGGAT
EagI (4235)
4201 TTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTAATCGTAAC
PacI (4215) SmaI (4224) NotI (4234)
4301 TAACATACGCTCTCCATCAAAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA