



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

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

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

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) BspHI (560) BamHI (570) HindIII (588)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGTCATCATGAGTGTGGATCCAGCTTGTCCCAAAGCTTGCCCTG

1▶ M S V D P A C P Q S L P C

601 CTTTGAAGCATCCGACTGTAAGAATCTTACCTATGCCTGTGATTTGTGGCCTGAAGAAAATATCCATCCTTGCAAATGTCTTCTGCTGAGATGCCT

13▶ F E A S D C K E S S P M P V I C G P E E N Y P S L Q M S S A E M P

NcoI (731)

701 CACACAGAGACTGTCTCTCTTCTTCTCCATGGATCTGCTTATTCAGGACAGCCCTGATTCTTCCACCAGTCCCAAAGCAAACAACCACTTCTG

47▶ H T E T V S P L P S S M D L L I Q D S P D S S T S P K G K Q P T S

EcoO109I (830)

Tth111I (826) PvuII (877)

801 CAGAGAAAGTGTGCGAAAAAGGAAGACAAGTCCCGGTCAAGAAACAGAAGACCAGAACTGTGTTCTTCCACCAGCTGTGTACTCAATGATAG

80▶ A E N S V A K K E D K V P V K K Q K T R T V F S S T Q L C V L N D R

901 ATTTGAGAGACAGAAATACCTCAGCCTCCAGCAGATGCAAGAACTCTCCAACATCCTGAACCTCAGCTACAAACAGGTGAAGACCTGGTTCCAGAACCAG

113▶ F Q R Q K Y L S L Q Q M Q E L S N I L N L S Y K Q V K T W F Q N Q

1001 AGAATGAAATCTAAGAGGTGGCAGAAAAACAACCTGGCCGAAGAAATAGCAATGGTGTGACGCAGAAAGCCTCAGCACCTACCTACCCAGCCTCTACTCTT

147▶ R M K S K R W Q K N N W P K N S N G V T Q K A S A P T Y P S L Y S

1101 CCTACCACAGGGATGCCTGGTGAACCCGACTGGAACTTCCAATGTGGAGCAACCAGACCTGGAACAATTCAACTGGAGCAACCAGACCCAGAACAT

180▶ S Y H Q G C L V N P T G N L P M W S N Q T W N N S T W S N Q T Q N I

ApaLI (1239)

1201 CCAGTCTGGAGCAACCACTCCTGGAACACTCAGACCTGGTGACCCAATCCTGGAACAATCAGGCCTGGAACAGTCCCTTCTATAACTGTGGAGAGGAA

213▶ Q S W S N H S W N T Q T W C T Q S W N N Q A W N S P F Y N C G E E

SphI (1313) BstXI (1340)

1301 TCTCTGCAGTCTGCATGCAGTTCAGCCAAATCTCTGCCAGTGACTTGGAGGCTGCCTTGAAGCTGCTGGGGAAGGCCCTAATGTAATACAGCAGA

247▶ S L Q S C M Q F Q P N S P A S D L E A A L E A A G E G L N V I Q Q

MscI (1496)

ScaI (1414) NcoI (1427) NheI (1490)

1401 CCACTAGGATTTTAGTACTCCACAAACCATGGATTTATCTAAACTACTCCATGAACATGCAACCTGAAGACGTGTGAAGATGAGTGAAGTACTAGCTGGC

280▶ T T R Y F S T P Q T M D L F L N Y S M N M Q P E D V • -

1501 CAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATT

HpaI (1628) MfeI (1639)

1601 TGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGTTTTTTAAAGCAAG

EcoRI (1724)

1701 TAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAA

1801 TAAGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGTTTT

SapI (1906) SspI (1963) SwaI (1977)

1901 GAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGA

EcoO109I (2038)

2001 AAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAGGAACCTTTAATA

2101 GAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTGTAGTTCCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATC

141▶ • N R T Y K L P I L E E I T T K V L K G N M

SacI (2238) BstXI (2267)

2201 TCAATGAGCAAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGT

118▶ 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 E D S Y

2301 AGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAAATGGCAATGGCTTACGACAGACAGTACCCTGCCAAT

85▶ 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 R G I

2401 GTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGTCTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCCTCATAGAGCATGGTATCTTC

52▶ 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 T I K

2501 TCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATAC
18 E T A V E V L E L D Q Q S I N F T K M

AseI (2610) SacI (2667)

2601 TATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACAC

SpeI (2765)

2701 GCCTACCGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTACTAGTCAAAACAAACTCCCATTGACGTCAATGGG

SnaBI (2893)

2801 GTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAG

NdeI (2998)

2901 ATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCA

3001 TATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATA

PacI (3184) SdaI (3176) BspLU11I (3194)

3101 CGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGT

3201 GAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAGAAAAATCGAGC

3301 CTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTT

3401 ACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTCGTTCCGCTCCAAGC

ApaLI (3508)

3501 TGGGCTGTGTGCACGAACCCCCGTTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACT

3601 GGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACA

3701 GTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGATTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTT

3801 TTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACG

EagI (3944) PacI (3924) SmaI (3933) NotI (3943)

3901 TTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTGTGTG

4001 AATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCT

4101 CTATCGAA