



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

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

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

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCTGCTTCTCAACTCTACGCTTTGTTTCGTTT

BstEII (555)

AgeI (552)
NcoI (560)
SspI (587)

501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCACCATGGCGCAACAGTGTTCACAGTGAATATTTTGACAG

1▶ M A Q Q C F H S E Y F D S

SphI (606)
EcoO109I (794)

601 TCTGCTGCATGCTTGCAAACCGTGCACCTGTCACCTTCCAAACCTCTGCAACCTGTGACGCTTACTGTGATCCAAGCGTGACCAGTTCAGTGAAGGG

13▶ L L H A C K P C H L R C S N P P A T C Q P Y C D P S V T S S V K G

PshAI (732)

701 ACGTACACGGTGTCTGGATCTTCTGGGGCTGACCTTGGTCTCTTTGGCACTTTTACAATCTCATTCTTGTGAGGAAGTGAACCCCGAGGCC

47▶ T Y T V L W I F L G L T L V L S L A L F T I S F L L R K M N P E A

PvuII (844)

801 TGAAGACGAGCCTCAAAGCCAGGTACGTTGACGGATCGGCTCAGCTGGACAAGGCCGACACCGAGCTGACTAGGATCAGGGCTGGTGACGACAGGAT

80▶ L K D E P Q S P G Q L D G S A Q L D K A D T E L T R I R A G D D R I

Bst1107I (918)
ApaLI (933)
Tth111I (946)

901 CTTCCCCGAAGCCTGGAGTATACAGTGAAGAGTGACCTGTGAGGACTGTGTCAAGAGCAAACCAAGGGGATTCTGACATTTCTCCCGCTTCCA

113▶ F P R S L E Y T V E E C T C E D C V K S K P K G D S D H F F P L P

NcoI (1001)

1001 GCCATGGAGGAGGGGCAACCATTTGTGACCAACAAAACGGGTGACTACGGCAAGTCAAGTGTGCAACTGCTTTGCAAAGTGTATGGGGATGGAGA

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

MscI (1163)

NheI (1157)

1101 AGCCAACCTCACACTAGATAATGAGCTTCTTAACCTGGTGTGAAGCTGCTTTGAGAAACGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGAC

180▶ K P T H T R •

HpaI (1295)

1201 AAACCACAAC TAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAA

MfeI (1306)
EcoRI (1391)

1301 CAACAACAATTGCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGGGTATGGAATTTCTAA

1401 AATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCAATGT

SapI (1573)

1501 GCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTGAAC TAGCTCTTCATTTCTTTATGTTTTAAATG

SspI (1630)
SwaI (1644)

1601 CACTGACCTCCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGAT

EcoO109I (1705)

1701 GCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCT

1801 TTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCA

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 C D P A Y D

SacI (1905)

BstXI (1934)

1901 GAGATGAGCTCTCGCATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGT

107▶ 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 A V I T D F D

StuI (2069)

2001 CCTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCACAGACAGTACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTC

74▶ 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 H V A S I I E

2101 CCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGCTCCTCATAGAGCATGGTATCTTCTCAGTGGCAGCTCCACCAGCTCCAGATCTGC

41▶ 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 V L E L D Q

BbsI (2215)
AseI (2277)

XmnI (2211)

2201 TGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGA

7▶ Q S I N F T K M

2301 TGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGT
SacI (2334)

2401 TGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCG
SpeI (2432)

2501 CTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTC
SnaBI (2560)

2601 ATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAG
NdeI (2665)

2701 TTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGAAACATACGTCATTATTGACGTCAATGGGCGGGGGTCTGT
PacI (2851)

2801 GGGCGGTCAAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTA
PstI (2844) SdaI (2843) BspLU11I (2861)

2901 AAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT
3001 ATAAAGATAACAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGA

3101 AGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCCG
ApaLI (3175)

3201 ACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGC
3301 GAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTT
3401 ACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAA
PacI (3591)

3501 AAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAAC
EagI (3611)

3601 ATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAAACA
SwaI (3600) NotI (3610)

3701 AAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA