



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

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGTCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

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

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) BspHI (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGTCATCATGACGCTCCTCCCCGGCCTCTGTTTCTGACCTGGCT

1 ▶ M T L L P G L L F L T W L

Bsu36I (630) Acc65I (655)

601 GCACACATGCCTGCCCCACCATGACCCCTCCCTCAGGGGGCACCCCCACAGTCACGGTACCCACACTGCTACTCGGTGAGGAACTGCCCTCGGCCAG

13▶ H T C L A H H D P S L R G H P H S H G T P H C Y S A E E L P L G Q

XhoI (719) BstAPI (738)

701 GCCCCCACACCTGTGGCTCGAGGTGCCAAGTGGGGCAGGCTTTGCTGTAGCCCTGGTGTCCAGCCTGGAGGCAGCAAGCCACAGGGGGAGGCACG

47▶ A P P H L L A R G A K W G Q A L P V A L V S S L E A A S H R G R H

EagI (835) Eco47III (869)

801 AGAGGCCCTCAGTACGACCCAGTGCCCGGTGCTGCGGCCGGAGGAGTGTGGAGGCAGACCCACCAGCGCTCCATCTCACCTGGAGATACCGTGT

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

ClaI (964) PvuII (989)

901 GGACACGGATGAGGACCGCTATCCACAGAAGCTGGCCTTCGCCGAGTGCCTGTGCAGAGGCTGTATCGATGCACGGACGGCCCGGAGACAGCTGCGCTC

113▶ D T D E D R Y P Q K L A F A E C L C R G C I D A R T G R E T A A L

NgoMIV (1040)

1001 AACTCCGTGCGGTGCTCCAGAGCCTGCTGGTGTGCGCCGCCGCTGCTCCCGACGGCTCGGGGCTCCCCACACCTGGGGCTTTGCCTTCCACA

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

Bsp120I (1170) BbrPI (1186) NheI (1198)

1101 CCGAGTTCATCCACGTCCCCTCGGCTGCACCTGCGTGTGCCCGTTCAAGTGTACCGCCGAGGCCGTGGGGCCCTAGACTGGACACGTGTGCTCCGC

180▶ T E F I H V P V G C T C V L P R S V •

MscI (1204)

1201 TAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATT

HpaI (1336) MfeI (1347)

1301 GCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAACAAACAACATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTT

EcoRI (1432)

1401 AAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGA

1501 GGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTTATGAGTAAAGATATAGTGTATTTTCC

SapI (1614) SspI (1671) SmaI (1685)

1601 CAAGTTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAAATTCAGAAATAATTTAAATACATCAT

1701 TGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAAGGAAC

1801 CTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGC

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

SacI (1946) BstXI (1975)

1901 CATTCACTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGTAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGCCACCTC

121◀ 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 R D V E

2001 ATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTCAGCACAGACAGTACC

88◀ 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 C V T V

StuI (2110)

2101 CTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTGTTGTCCTCATAGAGCATGG

54◀ 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 Y L M T

BbsI (2256) XmnI (2252)

2201 TGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGC

21◀ I K E T A V E V L E L D Q Q S I N F T K M

AseI (2318) SacI (2375)

2301 CGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCCA

2401 CCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTTGATTTACTAGTCAAAAACAACTCCCATTGACG
SpeI (2473)
2501 TCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTA

SnaBI (2601)
2601 ATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGT

NdeI (2706)
2701 ACTTGGCATATGATACACTTGATGTAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATG

PacI (2892)
PstI (2885)
SdaI (2884)
2801 GGAACATACGTCATTATTGACGTCAATGGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAA

BspLU11I (2902)
2901 GAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAA
3001 AATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTCCCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCC
3101 TGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCG

ApaLI (3216)
3201 CTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCAGCGCTGCGCCTTATCCGTAAGTATCGTCTTGAGTCCAACCGGTAAGACAGGACTTA
3301 TCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTA
3401 GAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGG
3501 TGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAA

EagI (3652)
PacI (3632) SwaI (3641) NotI (3651)
3601 AACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTT
3701 TTTGTGTAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGA
3801 ACATTTCTCTATCGAA