



PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535)
AgeI (552)
BspHI (560)

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCATCATGAAATCACTCTCATATAGAGAATCTGGATGAAGA

1▶ M K Y H S H I E N L D E D

XcmI (676)

601 TGGATATACTCAATTAGACTTCAGCACTCAAGACATCCATAAAAGGCCAGGGATCAGAGAAAGGAAGCCGGCTCCATCTTCACCTTGAGGCCATT

13▶ G Y T Q L D F S T Q D I H K R P R G S E K G S R A P S S P W R P I

PstI (743)
AvrII (759)
NsiI (799)

701 GCAGTGGGTTTAGGAATCCTGTGCTTTGTGGTAGTAGTGGTTCGTCAGTGTGGTGCCTAGGAGGTTTTCTCAGTCTTGCCTTCTAATTGGATCA

47▶ A V G L G I L C F V V V V V A A V L G A L G G F S Q S C L P N W I

SapI (807)

801 TGCATGGGAAGAGCTGTTACCTATTTAGCTTCTCAGGAAATTCCTGGTATGGAAGTAAGAGACTGCTCCAGCTAGGTGCTCATCTACTGAAGATAGA

80▶ M H G K S C Y L F S F S G N S W Y G S K R H C S Q L G A H L L K I D

NsiI (953)
AseI (949)
StuI (966)
NcoI (994)

901 CAACTCAAAGAATTTGAGTTCATTGAAAGCCAAACATCGTCTCACCGTATTAATGCATTTTGGATAGGCCTTCCCGCAATCAGAGTGAAGGCCATGG

113▶ N S K E F E F I E S Q T S S H R I N A F W I G L S R N Q S E G P W

HindIII (1065)

1001 TTCTGGGAGGATGGATCAGCATTCTTCCCAACTCGTTTCAAGTCAGAAATACAGTTCGCCAGGAAAGCTTACTGCACAATTGTGTATGGATTATGGAT

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

MscI (1168)
NheI (1162)

1101 CAGAGGTCTACAACCAAATCTGCAATACTTCTCATAAGTATCTGTGAGAAGGAACTGTAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTT

180▶ S E V Y N Q I C N T S S Y S I C E K E L •

1201 TGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAA

HpaI (1300)
EcoRI (1396)

1301 GTTAAACAACAACATTCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAAT

1401 TCTAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCC

SapI (1578)

1501 AATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTGTGAACTAGCTCTTCATTCTTTATGTTTT

SspI (1635)
SwaI (1649)

1601 AAATGCACTGACCTCCACATTCCCTTTTATGATAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAATC

EcoO109I (1710)

1701 CAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTC

1801 TAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCAT

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

SacI (1910)

1901 AGTCAGAGATGAGCTCTGTCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTG

109▶ 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 A V I T D

StuI (2074)

2001 AAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATG

76▶ 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 H V A S I

2101 ATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTGTTGCTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGAT

42▶ 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 V L E L D

BbsI (2220)
XmnI (2216)
AseI (2282)

2201 CCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGTGATTTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGC

9▶ Q Q S I N F T K M

SacI (2339)

2301 GTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACAGCCTACCGCCATTTGCGTCAATGGGGC

SpeI (2437)

2401 GGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATTTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCA

2501 AACCGCTATCCACGCCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAAGTAGGAAAGTCCCATA
SnaBI (2565)

2601 AGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTG
NdeI (2670)

2701 GGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGG

PacI (2856)
PstI (2849)
SdaI (2848) BspLU11I (2866)

2801 TCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAA
←

2901 CCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACA

3001 GGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTT

ApaLI (3180)

3101 CGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCA

3201 GCCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGC

3301 AGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGC

3401 CAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGGTTCAGCAGCAGATTACGCGCAG

3501 AAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA
PacI (3596)

EagI (3616)
SwaI (3605) NotI (3615)

3601 TTAACATTTAAATCAGCGGCCGAATAAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCA

3701 AAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA