



PvuI (7)
SgfI (6)
MfeI (82) **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGACAGTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCCTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

HindIII (245)
EcoNI (287)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

NgoMI (441)
BspHI (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCATCATGAGGATATTTGCTGGCATTATATTCACAGCCTGCTG
 601 TCACCTTGCTACGGCGTTTACTATCACGGCTCCAAAGGACTTGTACGTGGTGGAGTATGGCAGCAACGTCACGATGGAGTGCAGATTCCTGTAGAACGG
 13▶ H L L R A F T I T A P K D L Y V V E Y G S N V T M E C R F P V E R

KasI (535)
AgeI (552)

701 GAGCTGGACCTGCTTGCCTAGTGGTGTACTGGAAAAGGAAGATGAGCAAGTATTGAGTTTGTGGCAGGAGGAGGACCTTAAGCCTCAGCACAGCA
 47▶ E L D L L A L V V Y W E K E D E Q V I Q F V A G E E D L K P Q H S

EcoO109I (776)

801 ACTTCAGGGGAGAGCCTCGCTGCCAAAGGACCAGCTTTTGAAGGAAATGCTGCCCTTCCAGATCACAGACGTCAGTGCAGGACGCGAGGCGTTTACTG
 80▶ N F R G R A S L P K D Q L L K G N A A L Q I T D V K L Q D A G V Y C

BamHI (990)

901 CTGCATAATCAGTACGGTGGTGGCGACTACAAGCAATCACGCTGAAAGTCAATGCCCATACCGCAAATCAACCAGAGAATTTCCGTGGATCCAGCC
 113▶ C I I S Y G G A D Y K R I T L K V N A P Y R K I N Q R I S V D P A

XcmI (1074)

1001 ACTTCTGAGCATGAACTAATATGTCAGGCCGAGGGTTATCCAGAAGCTGAGGTAATCTGGACAAACAGTGACCACCAACCCGTGAGTGGGAAGAGAAGTG
 147▶ T S E H E L I C Q A E G Y P E A E V I W T N S D H Q P V S G K R S
 1101 TCACCACTTCCCGGACAGAGGGATGCTTCAATGTACCAGCAGTCTGAGGGTCAACGCCACAGCAATGATGTTTTCTACTGTACGTTTTGGAGATC
 180▶ V T T S R T E G M L L N V T S S L R V N A T A N D V F Y C T F W R S

BamHI (1291)

1201 ACAGCCAGGGGAAAACACACAGCGGAGCTGATCATCCAGAAGTGCCTGCAACACATCTCCACAGAACAGGACTCCTGGTGGTCTTGGGATCCATC
 213▶ Q P G Q N H T A E L I I P E L P A T H P P Q N R T H W V L L G S I
 1301 CTGTTGTTCTCATTGTAGTGTCCACGGTCTCCTCTTCTTGGAAAAACAAGTGAAGTCTAGATGTGGAGAATGTGGCTTGAAGATACAAGCTCAA
 247▶ L L F L I V V S T V L L F L R K Q V R M L D V E K C G V E D T S S

MscI (1469)

1401 AAAACCGAAATGATACACAATTCGAGGAGACGTAAGCAGTGTGAACCCCTGATCGTCGATTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGT
 280▶ K N R N D T Q F E E T •

NheI (1463)

1501 TTGGACAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACA

HpaI (1601)
EcoRI (1697)

1601 AGTTAACAACAACAAATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAA
 1701 TTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGC
 1801 CAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACGCTCTCATTCTTTATGTTT

SspI (1936)
SwaI (1950)

1901 TAAATGCACTGACCTCCACATTCCTTTTTAGTAAAAATATTCAGAAAATAAATTAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAT

EcoO109I (2011)

2001 CCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTGTGGACTTAGGGAACAAAGAACCTTTAATAGAAAATGGACAGCAAGAAAGCGAGCTT

SacI (2211)
BstXI (2240)

2101 CTAGCTTTAGTTCCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTCCATTCTCAATGAGCACAAGCAGTCAGGAGCA
 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
 2201 TAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGT
 109▶ 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 V A V I T D

StuI (2375)

2301 CAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCAGACAGTACCCCTGCAATGTAGGCTCAATGTGGACAGCAGAGAT
 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
 2401 GATCTCCCAAGTCTTGGTCTGATGGCCGCCCCGACATGGTGGTCTGTTGTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGA
 43▶ 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

BspHI (2525)
VspI (2583)

2501 TCCTGCTGAGAGATGTTGAAGGTTCTCATGATGCCCTCTATAGTGAGTCTGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAG
 9▶ D Q Q S I N F T K M

2601 CGTGGATGGCGTCTCCAGC T TATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGG
SacI (2640)

2700 GCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAG
SpeI (2738)

2799 TCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCC
SnaBI (2866)
Eco105I (2866)

2899 ATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCCAA
NdeI (2971)

2999 GTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGG

3099 GGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCC
PstI (3150) PciI (3167)
SdaI (3149) PacI (3157) BspLU11I (3167)

3197 AGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACC
ApaLI (3481)

3297 CGACAGGACTATAAAGATACCAGGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCT

3397 CCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCC
ApaLI (3481)

3497 GTTCAGCCCAGCCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGA

3597 TTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCT

3697 GAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACG

3797 CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTCTGACGCTCAGTGGAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTA

3897 GTTAATTAACATTTAAATC AGCGGCCGAATAAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTC
PacI (3897) SwaI (3906) EagI (3917) NotI (3916)

3997 CATCAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAGTCCAGAACATTTCTCTATCGAA