



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGGGGTAACGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) Bsu36I (291)
Psp1406I (203) PvuII (239) EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTCGCGTTCGCCGCTCCCGCCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)** **SphI (559)**
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTAGCATGCTGGCTCAGCACTGCTATGCTGCCTGCTCTTACTG
601 ACTGGCATGAGGATCAGCAGGGGCCAGTACAGCCGGGAAGACAATAACTGCACCCACTTCCCAGTCGGCCAGAGCCACATGCTCCTAGAGCTGCGGACTG
147▶ T G M R I S R G Q Y S R E D N N C T H F P V G Q S H M L L E L R T
1▶ M P G S A L L C C L L L L

XmnI (713) **PvuII (738)**
701 CCTTCAGCCAGGTGAAGACTTTCTTTCAAACAAGGACCAGCTGGACAACATACTGCTAACCGACTCCTTAATGCAGGACTTTAAGGGTTACTTGGGTTG
47▶ A F S Q V K T F F Q T K D Q L D N I L L T D S L M Q D F K G Y L G C

EcoRI (887)
801 CCAAGCCTTATCGAAATGATCCAGTTTACCTGGTAGAAGTGATGCCCCAGGAGAGCAAGCATGGCCAGAAATCAAGGAGCATTGAAATCCCTGGGT
80▶ Q A L S E M I Q F Y L V E V M P Q A E K H G P E I K E H L N S L G

Bsu36I (914) **ClaI (940)**
901 GAGAAGCTGAAGACCTCAGGATGCGGCTGAGGCGCTGTCATCGATTTCTCCCTGTGAAAATAAGAGCAAGGCAGTGGAGCAGGTGAAGAGTGATTTTA
114▶ E K L K T L R M R L R R C H R F L P C E N K S K A V E Q V K S D F
1001 ATAAGCTCCAAGACCAAGGTGCTACAAGGCCATGAATGAATTTGACATCTTCATCAACTGCATAGAAGCATACATGATGATCAAAATGAAAAGCTAAAA
147▶ N K L Q D Q G V Y K A M N E F D I F I N C I E A Y M M I K M K S •

PstI (1103) **NheI (1126)** **MscI (1132)**
1101 CACCTGCAGTGTATTGAGTCTGCTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAACCTAGAATGCAGTGAAAAAATG

HpaI (1264) MfeI (1275)
1201 CTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAAATTGCATTCATTTTATGTTTCAG

EcoRI (1360)
1301 GTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAAA
1401 TCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTC

SspI (1599)
1501 ATGGAGTTTAAGATATAGTGATTTTCCCAAGGTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGATAA

Swal (1613) **EcoO109I (1674)**
1601 ATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTT
1701 AGTAGTTGCACTTAGGAAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGT
141▶ • N R T Y K L P I L

SacI (1874)
1801 TCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGC
130▶ E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C M G C P S

BstXI (1903)
1901 TGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAAT
97▶ V V R I S R D V E D S Y P H R V A V I T D F D K Q G N S V A S G I

StuI (2038)
2001 GGCAATGGCTTCAACAGACAGTACCCTGCCAATGTAGGCCCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACA
64▶ A I A E A C V T V R G I Y A E I H V A S I I E G T K T R I A A G V

BspHI (2188)
2101 TGGTGCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCC
30▶ H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T K M

AseI (2246)
2201 TCCTATAGTGAGTCGATTATACTACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTA

SacI (2303)
2301 AACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATT

SpeI (2401)
2401 TACTAGTCAAACAAACTCCCATGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAACCGCTATCCAGCCCATTTGATGTACTGCCAAAAC

2501 CGCATCATCATGGAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATT
SnaBI (2529)

2601 TACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCA
NdeI (2634)

2701 ATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGACCCAGGCGGGCCATTACCCTA
PacI (2820)

2801 AGTTATGTAACGCCTGCAGGTTAATTAAAGAACATGTGAGCAAAGGCCAGGAAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAG
PstI (2813) SdaI (2812) BspLU11I (2830)

2901 GCTCCGCCCCCTGACGAGCATCAGAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCCCCCTGGAAGC
BspLU11I (2830)

3001 TCCCTCGTGCCTCTCCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTA
ApaLI (3144)

3101 GGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCT
ApaLI (3144)

3201 TGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTG
ApaLI (3144)

3301 AAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTTTGAT
ApaLI (3144)

3401 CCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTC
ApaLI (3144)

3501 TACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTT
PacI (3560) SmaI (3569) EagI (3580) NotI (3579)

3601 TATTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGC
EagI (3580)

3701 TGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA