



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) EcoNI (96)

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
PvuII (239) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
EcoNI (287) **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTCACCATGGCCCTGTCCTTTTCTTACTTATGGCCGTGCTGGT
1▶ M A L S F S L L M A V L V
EcoO109I (667)

601 GCTCAGCTACAAATCCATCTGTTCTCTAGGCTGTGATCTGCCTCAGACCCACAGCCTGGTAATAGGAGGGCCTTGATACTCCTGGGACAAATGGGAAGA
13▶ L S Y K S I C S L G C D L P Q T H S L G N R R A L I L L G Q M G R
701 ATCTCTCCTTTCTCCTGCCTGAAGGACAGACATGATTTCCGAATCCCCAGGAGGAGTTTGATGGCAACAGTCCAGAAGGCTCAAGCCATCTCTGTCC
47▶ I S P F S C L K D R H D F R I P Q E E F D G N Q F Q K A I S V
801 TCCATGAGATGATCCAGCAGACCTTCAATCTCTCAGCACAGACAGACTCTGCTTGGGAACAGAGCCTCTAGAAAAATTTCCACTGAACCTTTA
80▶ L H E M I Q Q T F N L F S T E D S S A A W E Q S L L E K F S T E L Y
901 CCAGCAACTGAATGACCTGGAAGCATGTGTGATACAGGAGGTTGGGGTGAAGAGACTCCCTGATGAATGAGGACTCCATCCTGGCTGTGAGAAATAC
113▶ Q Q L N D L E A C V I Q E V G V E E T P L M N E D S I L A V R K Y

BspHI (1073) 1001 TTCAAAGAACTACTCTTATCTAATAGAGAGAAATACAGCCCTTGTGCTGGGAGGTTGTACAGAGCAGAAATCATGATCCCTCGTTTTCAACAA
147▶ F Q R I T L Y L I E R K Y S P C A W E V V R A E I M R S L S F S T

MscI (1172)
NheI (1166) 1101 ACTTGCAAAAAAGATTAAGGAGGAAGGATTGAAAACCTGGTTCAACATCGAAATGATTCTCATTGACGCTAGCTGGCCAGACATGATAAGATACATTGATG
180▶ N L Q K R L R R K D •

1201 AGTTTGGACAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGTGAATAA

HpaI (1304) MfeI (1315) 1301 ACAAGTTAACAACAACAATTGCATTTATGTTTCAGGTTGAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATG

EcoRI (1400) 1401 GAATTCATAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGT
▶ ◀

SapI (1582) 1501 TGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTCTTCTTTCTTTATG

SspI (1639) SwaI (1653) 1601 TTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAG

EcoO109I (1714) 1701 AATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATGGACAGCAAGAAAGCGAG

1801 CTTCTAGCTTTAGTTCCTGGTGTACTTGGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGA
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

SacI (1914) **BstXI (1943)** 1901 GCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGG
110▶ A 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

StuI (2078) 2001 TGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGA
77▶ D 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
2101 GATGATCTCCCAGTCTTGGTCTGATGGCCGCCCCGACATGGTGCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCC
44▶ I 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

BbsI (2224) **AseI (2286)** 2201 AGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAA
10▶ L D Q Q S I N F T K M ◀

SacI (2343) 2301 CAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATG

SpeI (2441) 2401 GGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGA

SnaBI (2569) 2501 GTCAAACCCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCC

NdeI (2674)

2601 CATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCA

2701 AGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCG

PacI (2860)

PstI (2853) SdaI (2852) BspLU11I (2870)

2801 GGGGTCGTTGGGCGGTGACGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCA

2901 GGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCC

3001 GACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTC

ApaLI (3184)

3101 CCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGG

3201 TTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGAT

3301 TAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTG

3401 AAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGC

3501 GCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAG

EagI (3620)

PacI (3600) SmaI (3609) NotI (3619)

3601 TTAATTAACATTTAAATC AGCGGCCGAATAAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCC

3701 ATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAAGTGCCAGGTCAGAACATTTCTCTATCGAA