



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGGC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTAGGAGGGCCATCATGACCCTGCGGTGCCTGGAGCCCTCCGGG

BspHI (568) 1▶ M T L R C L E P S G

BsrBI (604) 601 AATGGAGCGGACAGGACGCGGAGCCAGTGGGGACCGGGGTTGCCGGAGAACAGTCCCCGAGGCGGCGCTGTGGCAAAGCCCTGCGCGAGCTCA

11▶ N G A D R T R S Q W G T A G L P E E Q S P E A A R L A K A L R E L

701 GTCAAACAGGATGGTACTGGGAAGTATGACTGTTAATGAAGCAAAGAGAAATTAAGAGGCTCCAGAAGGAACCTTCTTATTAGAGATAGTTCCGA

44▶ S Q T G W Y W G S M T V N E A K E K L K E A P E G T F L I R D S S H

PvuII (835) 801 TTCAGACTACCTACTAATATATCCGTTAAGACGTGACCTGGACCGACTAACCTGCGGATTGAGTACCAAGATGGAAATTGAGATTGGATTCTATCATA

77▶ S D Y L L T I S V K T S A G P T N L R I E Y Q D G K F R L D S I I

NdeI (896)

HindIII (912) 901 TGTGTCAAGTCCAAGCTTAAACAGTTTACAGTGTGGTTCATCTGATTGACTACTATGTCCAGATGTGCAAGGATAAACGGACAGGCCAGAAGCCCCAC

111▶ C V K S K L K Q F D S V V H L I D Y Y V Q M C K D K R T G P E A P

Bst1107I (1037) 1001 GGAATGGGACTGTTACCTGTACCTGACCAAACCTCTGTATACATCAGCACCACTCTGCAGCATTCTGTGCGACTGCCATTAACAAATGTACCCGTAC

PstI (1056) 144▶ R N G T V H L Y L T K P L Y T S A P T L Q H F C R L A I N K C T G T

SalI (1069)

AgeI (1092)

MseI (1173) 1101 GATCTGGGACTGCCTTTACCAACAAGACTAAAAGATTACTTGAAGAATATAAATTCAGGTATAAGCTAGCTGGCCAGACATGATAAGATACATTGAT

177▶ I W G L P L P T R L K D Y L E E Y K F Q V •

NheI (1167)

1201 GAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATA

HpaI (1305) 1301 AACAAAGTTAAACAACAACATTGCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAT

EcoRI (1401) 1401 GGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTG

SapI (1583) 1501 TTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTCCCAAGTTTGAACCTCTCATTCTTTAT

SspI (1640) 1601 GTTTTAAATGCACTGACCTCCACATTCCTTTTATAGTAAAATATTCAGAAAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCA

SwaI (1654)

EcoO109I (1715) 1701 GAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGA

1801 GCTTCTAGCTTTAGTTCTGTTGACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGG

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

BstXI (1944) 1901 AGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATG

111▶ 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

StuI (2079) 2001 GTGTCAAAGTCTTCTGCCCCTTGTCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCAATGTAGGCTCAATGTGGACAGCAG

77▶ T 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 AGATGATCTCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTC

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 (2225) 2201 CAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGTGCTATTATACTATGCGGATATACTATGCGGATGATTAATTGTCAA

XmnI (2221) 11▶ L D Q Q S I N F T K M

AseI (2287)

2301 ACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAAT

2401 GGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTG
SpeI (2442)
←

2501 AGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTC
SnaBI (2570)

2601 CCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCC
NdeI (2675)

2701 AAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGC

2801 GGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCC
PstI (2854)
SdaI (2853)
PacI (2861)
BspLU11I (2871)

2901 AGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACC

3001 CGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCT

3101 CCTTCGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCC
ApaLI (3185)

3201 GTTCAGCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGA

3301 TTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCT

3401 GAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACG

3501 CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTA

3601 GTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTC
EagI (3621)
PacI (3601) SmaI (3610) NotI (3620)

3701 CATCAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA