



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCAGCTTTGCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

BstEII (555)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCACCATGGCTAGGCTGTGCTTTCTGATGACCTGCTAGT

NcoI (560) 1 M A R L C A F L M T L L V
Bsu36I (654)

601 GATGAGCTACTGGTCAACCTGCTCTTAGGATGTGACCTGCCTCAGACTCATAACCTCAGGAACAAGAGACCTTGACCCTCCTGGTACAAATGAGGAGA

13 M S Y W S T C S L G C D L P Q T H N L R N K R A L T L L V Q M R R
 701 CTCTCCCTCTCTCCTGCCTGAAGGACAGAAAGACTTTAGATTCCCCCAGGAGAAGTGGATGCCAGCAGATCCAGAATGCTCAAGCCATCCCTGTCC

47 L S P L S C L K D R K D F R F P Q E K V D A Q Q I Q N A Q A I P V

XmnI (825)
EcoO109I (818) 801 TACAAGAGCTGACCCAGCAGGTCTGAACATCTTACATCAAAGGACTCATCTGCTGTTGGGATGCATCCCTCTAGACTCATTCTGCAATGACCTCCA

NsiI (863) 80 L Q E L T Q Q V L N I F T S K D S S A A W D A S L L D S F C N D L H
 901 TCAGCAGCTCAATGACCTCAAAGCCTGTGTGATGCAGGAGTGGGGTGCAGGAACCTCCCTGACCCAGGAAGACTACCTGCTGGCTGTGAGGACATAC

113 Q Q L N D L K A C V M Q E V G V Q E P P L T Q E D Y L L A V R T Y

BstXI (1097)
 1001 TTCACAGGATCACTGTGTACTGAGAGAGAAGAAACACAGCCCTGTGCCTGGGAGTGGTCAGAGCAGAAGTCTGGAGAGCCATGTCTTCTCAGCCA

147 F H R I T V Y L R E K K H S P C A W E V V R A E V W R A M S S S A

MscI (1141)
NheI (1135) 1101 AGTTGCTGGCAAGACTGAGTGAGGAGAAGGAGTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTG

180 K L L A R L S E E K E •

HpaI (1273) 1201 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACATTGCATTCATTTT

EcoRI (1369)
 1301 ATGTTTCAGGTTACAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTTA

1401 ACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCA

SapI (1551)
 1501 CCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCAAGTTTGAAGTCTTCTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTT

SspI (1608) 1601 TTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATC

Swal (1622) 1701 CCCAGTTTAGTAGTTGGACTTAGGGAACAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGG

EcoO109I (1683) 141 • N R T Y K L

SacI (1883)
 1801 GGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGC

133 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 D S I L E R C M G

BstXI (1912)
 1901 CACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGC

100 C P S 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

StuI (2047)
 2001 AGACCCAATGGCAATGGCTTTCAGCACAGACAGTACCCTGCCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGTAGGCC

67 S G I 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

XmnI (2189)
 2101 GCCCGACATGGTGTGTTGTCTCATAGAGCATGGTGTACTTCTCAGTGGCAGCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCTCA

33 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 Q Q S I N F T K M

AseI (2255)
 2201 TGGTGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGAC

0

2301 **SacI (2312)**
GGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTC

2401 **SpeI (2410)**
CCGTTGATTTACTAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAC

2501 **SnaBI (2538)**
TGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGG

2601 **NdeI (2643)**
CGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACTTGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCA

2701 TTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCA

2801 **PacI (2829)**
PstI (2822)
SdaI (2821) **BspLU11I (2839)**
TTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCCGCTTGTGGCGTT

2901 TTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCC

3001 CCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCT

3101 **ApaLI (3153)**
CACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAA

3201 CTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA

3301 GAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTA

3401 GCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

3501 **EagI (3589)**
PacI (3569) **SwaI (3578)** **NotI (3588)**
GATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATA

3601 AAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGC

3701 AAAATAGGCTGTCCCAGTGCAAGTGCAAGTGCCAGGATCCAGAACATTTCTCTATCGAA