



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) **EcoNI (96)**
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACACGCGCCCGCCCTACCTGAGGCC
EcoNI (287)
301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCCCTACCTGAGATCACCGGTCACCATGGGAATCCTGTCATTCTTACCTGTCTTGCCACTGA
1 M G I L S F L P V L A T E

NdeI (640)
601 GAGTGACTGGGCTGACTGCAAGTCCCCAGCCTTGGGGTCATATGCTTCTGTGGACAGCTGTGCTATTCTGGCTCCTGTTGCTGGGACACCTGCAGCT
13 S D W A D C K S P Q P W G H M L L W T A V L F L A P V A G T P A A

XhoI (721)
701 CCCCCAAGGCTGTGCTGAAACTCAGCCCAAGTGGATCAACGTGCTCCAGGAGACTCTGTGACTCTGACATGCCGGGGGACTCACAGCCCTGAGAGCG
47 P P K A V L K L E P Q W I N V L Q E D S V T L T C R G T H S P E S

BbrPI (894)
801 ACTCCATTGAGTGTCCACAATGGGAATCTCATTCCACCCACACGCAGCCAGCTACAGGTTCAAGGCCAACAAATGACAGCGGGGAGTACACGTTG
80 D S I Q W F H N G N L I P T H T Q P S Y R F K A N N N D S G E Y T C

MscI (906)
901 CCAGACTGGCCAGACCAGCCTCAGCGACCTGTGCATCTGACTGTGCTTTCTGAGTGGCTGGTCTCCAGACCCCTCACCTGGAGTTCAGGAGGGAGAA
113 Q T G Q T S L S D P V H L T V L S E W L V L Q T P H L E F Q E G E

BamHI (1092)
1001 ACCATCGTGTGAGTGGCCACAGCTGGAAGGACAAGCCTCTGGTCAAGGTACATTCTCCAGATGGAAAATCCAAGAAATTTCCCGTTCGGATCCCCA
147 T I V L R C H S W K D K P L V K V T F F Q N G K S K K F S R S D P

XemI (1122)
1101 ACTTCTCCATCCCACAAGCAAACACAGTCCAGTGGTATTACCACTGCACAGGAAACATAGGCTACACGCTGTACTCATCCAAGCCTGTGACCATCAC
180 N F S I P Q A N H S H S G D Y H C T G N I G Y T L Y S S K P V T I T

BsaBI (1224)
1201 TGTCCAAGCTCCCAGCTTTACCGATGGGGATCATTGTGGCTGTGGTCACTGGGATTGCTGTAGCGGCCATTGTTGCTGCTGTAGTGGCCTTGATCTAC
213 V Q A P S S S P M G I I V A V V T G I A V A A I V A A V V A L I Y
1301 TGCAGGAAAAAGCGGATTCAGCTCTCCAGGATACCTGAGTGCAGGGAAATGGGAGAGACCCTCCCTGAGAAAACAGCCAATCCCCTAATCCTGATG
247 C R K K R I S A L P G Y P E C R E M G E T L P E K P A N P T A N P D
1401 AGGCTGACAAAGTTGGGGCTGAGAACACAATCACCTATTCACTTCTCATGCACCCGGATGCTCTGGAAGAGCCTGATGACCAGAACCTGATTTAGTCTCC
280 E A D K V G A E N T I T Y S L L M H P D A L E E P D D Q N R I •

MscI (1521)
NheI (1515)
1501 ATTGTCTTGACATTGGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTG

HpaI (1653) **MfeI (1664)**
1601 AAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAGTTAAACAACAACAAATTCATTCTTTATGTTTCAGGTTTCAGGGGA

EcoRI (1749)
1701 GGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTA
1801 CTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAA

SspI (1988)
1901 GATATAGTGATTTTTCCCAAGGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAA

SwaI (2002) **EcoO109I (2063)**
2001 TAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGAC
2101 TTAGGGAACAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGT
141 • N R T Y K L P I L E E I T

SacI (2263) **BstXI (2292)**
2201 GGTTTTGACCAGCTTCCATTCTCAATGAGCACAAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACTG
127 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 V V R
2301 ATGGATCTGTCCACTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTT
93 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 A I A E

StuI (2427)
2401 CAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCACTTGGTCTGATGGCCGCCCGACATGGTCTTGT
60 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 H H K N

BbsI (2573)

2501 GTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGA
27 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 ←

XmnI (2569)

2601 GTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTG
←

AseI (2635)

SacI (2692)

2701 CTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTACTAGTCAAA
←

SpeI (2790)

2801 ACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAACCGCATCATCAT
←

SnaBI (2918)

2901 GGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGGGGCCATTTACCGTCATTG
←

NdeI (3023)

3001 ACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGTTGACTGCGAAGTGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCC
←

3101 CTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCTGGTGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAAC
←

PacI (3209)

SdaI (3201) BspLU11I (3219)

3201 GCGTGCAGGTTAAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCC
←

3301 CTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCG
←

3401 CTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGT
←

ApaLI (3533)

3501 TCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACC
←

3601 CGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGCC
←

3701 TAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAA
←

3801 ACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTACGGGGTCTG
←

EagI (3969)

PacI (3949) Swal (3958) NotI (3968)

3901 ACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTA
←

4001 CATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTG
←

4101 CAAGTGCAGGTGCCAGAACATTTCTCTATCGAA