



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) BspI (203) PvuII (239) EcoNI (287) Bsu36I (291)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCCCGCCGCTACCTGAGGCC
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)** BspLU11I (560)
501 TCTGTTTCCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCAACATGTGGGTGCTTACACCTGCTGCTTTTGTGGGAAGCT
1 M W V L T P A A F A G K L

NheI (684)
601 CTTGAGTGTGTTACAGCAACCTCTGAGCTCTCTGTGGAGAGCCTGGTCCCGCTGTTCTGCTGGCTGAGGGCAACCTTCTGGCTGCTACCAAGAGG
13 L S V F R Q P L S S L W R S L V P L F C W L R A T F W L L A T K R

PvuII (709)
701 AGAAAGCAGCAGCTGGTCCCTGAGAGGGCCAGATGAGACCAAAGAGGAGGAAGAGGACCCCTCTGCCACCACCCCAACACAGCGTCAACTATCACTTCA
47 R K Q Q L V L R G P D E T K E E E D P P L P T T P T S V N Y H F
801 CTGCCCAGTGCAACTACAAATGCGGCTTCTGTTCCACACAGCCAAAACATCCTTTGTGCTGCCCTTGGGAAGCAAAGAGAGGATTGCTTTGCTTAA
80 T R Q C N Y K C G F C F H T A K T S F V L P L E E A K R G L L L L K
901 GGAAGCTGGTATGGAGAAGTCAACTTTTTCAGGTGGAGAGCCATTTCTCAAGACCGGGGAGAATACCTGGGCAAGTTGGTGGGTTCTGCAAAGTAGAG
113 E A G M E K I N F S G G E P F L Q D R G E Y L G K L V R F C K V E

BstXI (1059)
1001 TTGCGCTGCCAGCGTGAGCATCGTGAGCAATGGAAGCCTGATCCGGAGAGGTGGTCCAGAAATTATGGTGGTATTTGGACATTCTCGCTATCTCTCT
147 L R L P S V S I V S N G S L I R E R W F Q N Y G E Y L D I L A I S

MscI (1140)
1101 GTGACAGCTTTGACGAGGAAGTCAATGTCCTTATTGGCCGTGGCAAGGAAAGAACCATGTGAAAACTTCAAAGCTGAGGAGGTGGTGTAGGGA
180 C D S F D E E V N V L I G R G Q G K K N H V E N L Q K L R R W C R D

AseI (1231)
1201 TTATAGAGTCGCTTCAAGATAAATCTGTCTTAATCGTTTCAACGTGGAAGAGGACATGACGGAACAGATCAAAGCACTAAACCTGTCCGCTGGAAA
213 Y R V A F K I N S V I N R F N V E E D M T E Q I K A L N P V R W K
1301 GTGTTCCAGTGCCTTAAATGAGGGTGAAGATTGTGGAGAAGATGCTCTAAGAGAAGCAGAAAGATTGTTATTGGTGGTGAAGAATTTGAAAGATTCT
247 V F Q C L L I E G E N C G E D A L R E A E R F V I G D E E F E R F
1401 TGGAGCGCCACAAAGAAGTGTCTGCTTGGTGCCTGAATCTAACCAGAAGATGAAAGACTCCTACCTATTCTGGATGAATATATGCGCTTTCTGAAGT
280 L E R H K E V S C L V P E S N Q K M K D S Y L I L D E Y M R F L N C

XcmI (1523)
1501 TAGAAAGGGACGGAAGACCTTCAAGTCCATCCTGGATGTTGGTGTAGAAGAAGCTATAAAATTCAGTGGATTGATGAAAAGATGTTTCTGAAGCGA
313 R K G R K D P S K S I L D V G V E E A I K F S G F D E K M F L K R

NdeI (1611) **BsrBI (1647)** **AvrII (1664)** **MscI (1676)**
1601 GGAGGAAAATACATATGGAGTAAGGCTGATCTGAAGCTGGATTGGTAGAGCGGAAAGTGAACGCCTAGGCTAGCTGCCAGACATGATAAGATACATT
347 G G K Y I W S K A D L K L D W •

1701 GATGAGTTTGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCA

HpaI (1808) MfeI (1819)
1801 ATAAACAAGTTAAACAACAACATTGCATTCTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAAATGTGG

EcoRI (1904)
1901 TATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGG

SapI (2086)
2001 CTGTTGCCAATGTCATTAGCTGTTTGACGCTCACCTCTTTTCATGGAGTTAAGATATAGTATTTTCCCAAGTTTGAAGTACTAGCTCTTCATTCTT

SspI (2143) **SwaI (2157)**
2101 TATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAG
2201 GCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTGTAGTGTGGACTTAGGGAACAAAGAACCTTAAATAGAATTGGACAGCAAGAAAG
2301 CGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTC
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

BstXI (2447)
2401 AGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACA
112 P 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

StuI (2582)
2501 ATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAG
78 I 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
2601 CAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCAGCTCCACCAG
45 S 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

2701 CTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTC
 12 E L D Q Q S I N F T K M
 2801 AAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCGTC

2901 AATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCC
 SpeI (2945)

3001 GTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAA
 SnaBI (3073)

3101 GTCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGCGTACTTGGCATATGATACACTTGTACT
 NdeI (3178)

3201 GCCAAGTGGGCGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATG

3301 GCGGGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAATAAGAACATGTGAGCAAAAGGCCAGCAAAAG
 PacI (3364)
 PstI (3357)
 SdaI (3356) BspLU11I (3374)

3401 GCCAGGAACCGTAAAAAGCGCGTTGCTGGCGTTTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAA
 3501 ACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTT

3601 TCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCC
 ApaLI (3688)

3701 CCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACA
 3801 GGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCT
 3901 GCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATT
 4001 ACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGG

4101 CTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCT
 PacI (4104) SmaI (4113) EagI (4124) NotI (4123)

4201 CTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA