



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

HindIII (245) **Bsu36I (291)**
Psp1406I (203) **PvuII (239)** **EcoNI (287)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

AgeI (552) **BspHI (568)**
501 TCTGTTTGTCCGCCGTTACAGATCCAAGCTGTGACCGGCCCTACCTGAGATCACCGGTAGGAGGGCCATCATGAACGGGGAGGCCATCTGCAGCGCCCTG
1 M N G E A I C S A L

SacII (644)
601 CCCACCATTCCCTACCACAAACTCGCCGACCTGCGCTACCTGAGCCCGCGCGCCTTGGCACTGTGTCGTCCGCCGCCACGCAGACTGGCGCGTCCAGG
11▶ P T I P Y H K L A D L R Y L S R G A S G T V S S A R H A D W R V Q
701 TGGCCGTGAAGCACCTGCACATCCACACTCCGCTGCTCGACAGTGAAGAAAGGATGCTTAAAGAGAAGCTGAAATTTTACACAAAGTAGATTTAGTTA
44▶ V A V K H L H I H T P L L D S E R K D V L R E A E I L H K A R F S Y
801 CATTCTTCAATTTTGGGAATTTGCAATGAGCCTGAATTTTGGGAATAGTTACTGAATACATGCCAAATGGATCATTAAATGAAGTCTACATAGGAAA
77▶ I L P I L G I C N E P E F L G I V T E Y M P N G S L N E L L H R K

MscI (921)
901 ACTGAATATCCTGATGTTGCTTGGCCATTGAGATTTTCGCATCCTGCATGAAATTGCCCTTGGTGTAAATTACCTGCACAATATGACTCCTCCTTTACTTC
111▶ T E Y P D V A W P L R F R I L H E I A L G V N Y L H N M T P P L L

BspHI (1001)
1001 ATCATGACTTGAAGACTCAGAATATCTTATTGGACAATGAATTTTCATGTTAAGATTGCAGATTTTGGTTTATCAAAGTGGCGCATGATGTCCCTCTCACA
144▶ H H D L K T Q N I L L D N E F H V K I A D F G L S K W R M M S L S Q
1101 GTCACGAAGTAGCAAATCTGCACCAGAAGGAGGACAATTATCTATATGCCACCTGAAAACCTGAACCTGGACAAAAATCAAGGGCCAGTATCAAGCAC
177▶ S R S S K S A P E G G T I I Y M P P E N Y E P G Q K S R A S I K H
1201 GATATATATAGCTATGCAGTTATCACATGGGAAGTGTATCCAGAAAACAGCCTTTTGAAGATGTCACCAATCCTTTGCAGATAATGTATAGTGTGCAC
211▶ D I Y S Y A V I T W E V L S R K Q P F E D V T N P L Q I M Y S V S

AseI (1317) **NdeI (1336)**
1301 AAGGACATCGACCTGTTATTAATGAAGAAAGTTTGCATATGATATACCTCACCGAGCACGTATGATCTCTCTAATAGAAAGTGGATGGGCACAAAATCC
244▶ Q G H R P V I N E E S L P Y D I P H R A R M I S L I E S G W A Q N P
1401 AGATGAAAGACCATCTTTCTTAAATGTTAATAGAACTTGAACCGAGTTTGGAGAATTTGAAGAGATAACTTTTCTTGAAGCTGTTATTACGCTAAAG
277▶ D E R P S F L H E N S G S P E T S R S L P A P Q D N D F L S R K A
1501 AAAACAAAGTTACAGAGTGTTCAGTGCCTTACCTATGTGACAAGAAGAAAATGGAATTATCTCTGAACATACCTGAAATCATGGTCCACAAGAGG
311▶ K T K L Q S V S S A I H L C D K K K M E L S L N I P V N H G P Q E

BamHI (1608) **XcmI (1622)** **XbaI (1689)**
1601 AATCATGTGGATCCTCTCAGCTCCATGAAAATAGTGGTTCCTGAAACTTCAAGGTCCTGCCAGCTCCTCAAGACAATGATTTTTTATCTAGAAAAGC
344▶ E S C G S S Q L H E N S G S P E T S R S L P A P Q D N D F L S R K A
1701 TCAAGACTGTTATTTTATGAAGCTGCATCACTGTCTGGAAATCACAGTTGGGATAGCACCATTTCTGGATCTCAAAGGGCTGCATTCTGTGATCACAAG
377▶ Q D C Y F M K L H H C P G N H S W D S T I S G S Q R A A F C D H K

SapI (1810) **BamHI (1885)**
1801 ACCACTCCATGCTCTTCAGCAATAATAAATCCACTCTCAACTGCAGGAAACTCAGAACGTCTGCAGCCTGGTATAGCCAGCAGTGGATCCAGAGCAAAA
411▶ T T P C S S A I I N P L S T A G N S E R L Q P G I A Q Q W I Q S K

BspHI [mj] (1973)
1901 GGAAGACATTGTGAACCAAATGACAGAAGCCTGCCTTAAACAGTCGCTAGATGCCCTTCTGTCCAGGGACTTGATCATGAAAGAGGACTATGAACCTGT
444▶ R E D I V N Q M T E A C L N Q S L D A L L S R D L I M K E D Y E L V
2001 TAGTACCAAGCCTACAAGACCTCAAAGTCCAGACAATTAAGTACACTGACATCAAGGAGAAGAAATTTGCCAAAGTTATAGTACAAAAATGAAA
477▶ S T K P T R T S K V R Q L L D T T D I Q G E E F A K V I V Q K L K

BsaBI (2152) **XbaI (2148)**
2101 GATAACAAACAAATGGGTCTTCAGCCTTACCCGGAATACTTGTGGTTCTAGATCACCATCTTAAATTTACTTCAAATAAAAAGCATGTAAGTGACTG
511▶ D N K Q M G L Q P Y P E I L V V S R S P S L N L Q N K S M •

MscI (2229) **NheI (2223)**
2201 TTTTCAAGAAGAAATGTGTTTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCCACAACCTAGAATGCAGTGAATAAATGCTT

HpaI (2361) **MfeI (2372)**
2301 TATTTGTGAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCTTTTATGTTTCAGGTT

EcoRI (2457)
2401 CAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCCAATCA
2501 AGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATG

SapI (2639) **SspI (2696)**
2601 GAGTTTAAGATAGTGTATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATGAAAAATA

2701 ^{Swal (2710)} TTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGT

2801 AGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGTTACTTGGGGGATGAGTTCC
141 • N R T Y K L P I L E
^{SacI (2971)}

2901 TCAATGGTGGTTTTGACCAGTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGA
129 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 C P S V
^{BstXI (3000)}

3001 CCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGC
96 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 S G I A
^{StuI (3135)}

3101 AATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGG
63 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 A G V H
^{XmnI (3277)}

3201 TGCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCC
29 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 (3343)}

3301 TATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAC
^{SacI (3400)} ^{SpeI (3498)}

3401 GAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTAC

3501 TAGTCAAAACAAACTCCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGC
^{SnaBI (3626)}

3601 ATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTAC

3701 ^{NdeI (3731)} CGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTAAGTGGGCGAGTTTACCCTAAATACTCCACCCATTGACGTCAATG

3801 GAAAGTCCCTATTGGCGTACTATGGAAACATACGTCAATATTGACGTCAATGGGCGGGGTCGTTGGGCGTCCAGCCAGGCGGGCCATTACCGTAAGT

3901 ^{PacI (3917)} TATGTAACGCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCATAGGCT
^{SdaI (3909)} ^{BspLU11I (3927)}

4001 CCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGC GAAACCCGACAGGACTATAAAGTACCAGCGTTTCCCTGGAAGCTCC

4101 CTCGTGCGCTCTCTGTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTACGCTGTAGGT

4201 ^{ApaLI (4241)} ATCTCAGTTCGGTGTAGGTCTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCCTGCGCTTATCCGGTAACTATCGTCTTGA

4301 GTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAG

4401 TGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCG

4501 GCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTAC

4601 ^{EagI (4677)} ^{PacI (4657)} ^{Swal (4666)} ^{NotI (4676)} GGGGTCTGACGCTCAGTGGAACGAAAACCTACGTTAAGGGATTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTAT

4701 TTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAAACAAACGAAACAAACAACTAGCAAAATAGGCTGT

4801 CCCAGTGCAAGTGACAGGTGCCAGAACATTTCTCTATCGAA