



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC **HindIII (245)**
301 GCCATCCACGCGGTTGAGTGCCTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC **Bsu36I (291)**

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT **NgoMIV (441)**
NaeI (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGGTCCGGACACCATGGGGACCCTGGACTGGCCAAAGTTGCAGTT **NcoI (566)**
601 CGCCCCCTTAATAGTGCCTGGACGTTGGCTTCTGGCACGAAGTACCAGAGTACCGCCTGGACGAGGACCCAAAGACATCAAG **KasI (535)** **BspEI (558)** **SandI (572)** **MscI (584)**
11▶ M G D P G L A K L Q F
11▶ A P F N S A L D V G F W H E L T Q K K L N E Y R L D E A P K D I K
701 GGCTATTACTACAATGGTACTCTGCTGGTCTGCCACCCGTTGACGTTGGAGTTCAGTCTTTGACATGAGTGCCTCCACGCTGCCACTGCTGCC
45▶ G Y Y Y N G D S A G L P T R L T L E F S A F D M S A S T P A H C C

801 CGGCCATGGGAACCTGCACAACACCAACACACTTGAGGCTTTAAGACAGCAGACAAGAAGCTCCTTCTGGAGCAGTCAAGTGCAGTCTGGGAAGC **NcoI (803)**
78▶ P A M G T L H N T N T L E A F K T A D K K L L L E Q S A N E I W E A
901 CATAAAGTCAGGTGCTGCTCTCGAAAACCCATGCTCCTCAACAAGTTTCTGCTCCTGACCTTCGCGGACCTAAAGAAGTACCCTTCTACTACTGGTTT
111▶ I K S G A A L E N P M L L N K F L L L T F A D L K K Y H F Y Y W F

1001 TGTCGCCCGCCCTGTCTTCTGAGAGCATCCCTCTAATCCGGGACCTGTGAGCTTGATCAAAGCTTTTACCAAAAACAGATCCAGGCCCTGGAGC **SphI (1098)**
145▶ C C P A L C L P E S I P L I R G P V S L D Q R L S P K Q I Q A L E
1101 ATGCTATGATGATCTGTGTCGAGCCGAAGGCGTCACGGCCCTGCCCTACTTCTTATTCAAGTACGATGACGACTGTTCTGGTCTCCTTGTCAAACA
178▶ H A Y D D L C R A E G V T A L P Y F L F K Y D D D T V L V S L L K H
1201 CTACAGTGATTTCTCAAGGTCAAAGGACAAAGATAACAGTTGGTGTGTACGATCCCTGTAACCTAGCCAGTACCCTGGATGGCCTTTGAGGAATTTT
211▶ Y S D F F Q G R T K I T V G V Y D P C N L A Q Y P G W P L R N F

1301 TTGGTCTGGCAGCCACAGATGGAGCGGCAGTTCCAGTCCGTTGAAGTCCCTGCTTTCCGGACCGCACCATGCAGGGAGCTAGAGACGTGACACATA **BsrBI (1323)**
245▶ L V L A A H R W S G S F Q S V E V L C F R D R T M Q G A R D V T H
1401 GCATCATCTTTGAAGTAACTCCAGAAATGGCATTAGCCAGATGTCTAAAGCTGTTGGCTGGGAGAAGAACCAGAAAGGAGGATGGTCCGAG
278▶ S I I F E V K L P E M A F S P D C P K A V G W E K N Q K G G M G P R

1501 GATGGTGAACCTCAGTGGATGTATGGACCCAAAAGGCTGGCTGAGTCACTGTGGATCTGAATCTCAAGCTGATGTGCTGGCGATTGGTCCCCACCTTG **BsaBI (1555)** **XemI (1592)**
311▶ M V N L S G C M D P K R L A E S S V D L N L K L M C W R L V P T L

1601 GACTTGGACAAGTCTGTCTGTCAAGTGCCTGCTGCTGGGAGCTGGTACCTTGGGGTGAATGTGGCTAGGACTGATGGGCTGGGCGTCAAGACATG **Asp718I (1645)** **Ace65I (1645)** **BspLU11I (1695)**
345▶ D L D K V V S V K C L L G A G T L G C N V A R T L M G W G V R H
1701 TCACCTTTGGATAACGCCAAGATCTCCTACTCCAATCCCGTAGGAGCAGCTGTGATGAATTTGAAGATTGTCTAGGGGGTGGCAAGCCAAAGGCCCT
378▶ V T F V D N A K I S Y S N P V R Q P L Y E F E D C L G G G K P K A L

1801 GGCTGCAGCAGCGGCTACAGAAAATATTTCCCGGAGTGAATGCCAGAGGGTTCAACATGAGCATCCCATGCCAGGACACCCTGTGAACCTTCTGAC **BsrBI (1810)** **SspI (1824)** **DraIII (1879)**
411▶ A A A E R L Q K I F P G V N A R G F N M S I P M P G H P V N F S D

1901 GTCACGATGGAGCAGGCCCGCAGAGATGTGGAGCAGCTGGAGCAGCTCATTGATAACCATGATGTCATCTTCTGCTAATGGACACCAGGGAGAGCCGGT **PvuII (1933)**
445▶ V T M E Q A R R D V E Q L E Q L I D N H D V I F L L M D T R E S R

2001 GGCTTCTACTGTTATTGACGCCAGCAAGGAAAGCTGGTCAACGCTGCCTTGGGGTTTGATACCTTTGTTGTCATGAGACATGGCCTGAAGAAACC **BspHI (2075)**
478▶ W L P T V I A A S K R K L V I N A A L G F D T F V V M R H G L K K P

2101 CAAGCAGCAGGGAGCCGAGACCTCTGCCAAGCCATCTGTAGCACCTGCTGACCTGGGCTCCTCACTTTTTGCCAACATCCCTGGATAACAAGCTTGGC **HindIII (2191)**
511▶ K Q Q G A G D L C P S H L V A P A D L G S S L F A N I P G Y K L G

2201 TGCTACTTCTGCAATGATGTGGTGGCTCCAGGAGATTCAACCAGAGACCGGACTCTGGACCAGCAGTGACAGTGAGCCGCCAGGCCTGGCCGTGATTG **ApaLI (2265)** **StuI (2283)**
545▶ C Y F C N D V V A P G D S T R D R T L D Q Q C T V S R P G L A V I

2301 CAGGTGCCCTGGCTGTGGAGCTGATGGTCTCTGCTCCTGCAGCATCTGAGGGGGCTACGCCATGCCAGCAGCAGTGTGACCCATGAATGAGCCTCC **Bsu36I (2344)**
578▶ A G A L A V E L M V S V L Q H P E G G Y A I A S S S D D R M N E P P

2401 CACCTCGCTGGGACTTGTGCCTACCCAGATCCGGGTTTTCTGTACGGTTCGATAATGTTCTTCTGTCAGCCTGGCATTGATAAATGTACAGCCTGT **BsrGI (2488)**
611▶ T S L G L V P H Q I R G F L S R F D N V L P V S L A F D K C T A C

2501 TCACCAAAGTCTTGTATCAGTACGAGCGAGAAGGATTACCTTCTAGCGAAGGTTTTAACTCCTCACATTCTTCTAGAAGACTTGACCGGTCTTA **AgeI (2590)**
645▶ S P K V L D Q Y E R E G F T F L A K V F N S S H S F L E D L T G L

NheI (2694)

2601 CCCTGCTCCATCAAGAGACCCAAGCTGCTGAGATCTGGGACATGAGTGACGAGGAGACTGTCTGAAGCAAGCAACCACAGCTCAGGAGTACCTGGCTAGC
678▶ T L L H Q E T Q A A E I W D M S D E E T V •

MscI (2700)

2701 TGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTT

HpaI (2832) MfeI (2843)

2801 TATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCTTTATGTTTCAGGTT CAGGGGAGGTGTGGGAGGTTTTTTAAAG

EcoRI (2928)

2901 CAAGTAAACCTCTACAATGTGGTATGGAAATCTAAAATACAGCATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGA
3001 TGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAG

SspI (3167) SmaI (3181)

3101 GTTTGAAC TAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATT CAGAAATAATTTAAATACATCATTGCA
3201 ATGAAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTT

3301 AATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATT
141▶ • N R T Y K L P I L E E I T T K V L K G N

SacI (3442)

3401 CATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCA
120▶ 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 I S R D V E D

3501 GAGTAGGGGTGCCTGACAGCCACAAATGGTGTCAAAGTCTTCTGCCCCTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCCTGC
86▶ 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 A C V T V R G

SstI (3606)

3601 CAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGTCTCATAGAGCATGGTGTAT
53▶ 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 D E Y L M T I

BspHI (3756)

XmnI (3748)

3701 CTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGAT
20▶ K E T A V E V L E L D Q Q S I N F T K M

AseI (3814) SacI (3871)

3801 A TACTATGCCGATGATTAATTGTCAA AACAGCGTGGATGGCGTCTCCAGCT TATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGT

SpeI (3969)

3901 ACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCA

SnaBI (4097)

4000 ATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA CTGCAAAAACCGCATCATCATGGTAATAGCGATGACTAATA

4100 CGTAGATGTA CTGCAAGTAGGAAAGTCCATAAGGTCATGTA CTGGGCATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACT

NdeI (4202)

4200 TGGCATATGATACACTTGATGTA CTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGA

SdaI (4380) PacI (4388)

4300 ACATACGTCAATTATTGACGTCAATGGGGGGGGTCTGTTGGGGGTCAGCCAGGGGGCCATTTACCGTAAGTTATGTAACCGCTGCAGGTTAA TTAAG

BspLU11I (4398)

4398 AACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA
4498 ATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCTTTCCCTGGAAGTCCCTCGTGCCTCTCCTGTTCCGACCCT
4598 GCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGAAAGCGTGGCGTTTTCTCATAGCTCACGCTGATGATCTCAGTTCGGTGTAGGTCGTTCCG

ApaLI (4712)

4698 TCCAAGCTGGGCTGTGTGCACGAACCCCCGTT CAGCCCCGACCGTGGCCTTATCCGGTAACTATCGTCTT GAGTCCAACCCGGTAAGACACGACTTAT
4798 CGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG
4898 AAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGT
4998 GGTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAA

EagI (5148) NotI (5147)

5098 ACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTT

5198 TTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAACAAACGAAACAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAA
5298 CATTTCTCTATCGAA