



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC **HindIII (245)**
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC **Bsu36I (291)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT **NgoMIV (441)**

501 TCTGTTTGTGCGCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTATCATGAGCTGGTACCTTCCCTGACAACGACAGATGTGG **AgeI (552)** **BstEII (569)** **BspLU11I (592)**
1 M S W S P S L T T Q T C G **NgoMIV (698)**

601 GGCCTGGAAATGAAAGAGCGCCTTGGACAGGGGATTTGAAATGTCATCCGATGGCACAATCAGGAAACAGGTGAGCAGATTGCCATCAAGCAGTGC **BsrBI (727)** **BspHI [m] (750)** **Bsu36I (799)**
13 A W E M K E R L G T G G F G N V I R W H N Q E T G E Q I A I K Q C
701 CGGCAGGAGCTCAGCCCCGGAACCGAGAGCGGTGGTGCCTGGAGATCCAGATCATGAGAAGGCTGACCCACCCAATGTGGTGGCTGCCGAGATGTCC **BspEI (872)**
47 R Q E L S P R N R E R W C L E I Q I M R R L T H P N V V A A R D V

801 CTGAGGGGATGCAGAACTTGGCGCCAATGACCTGCCCTGCTGGCCATGGAGTACTGCCAAGGAGGATCTCCGGAAGTACCTGAACCAGTTTGAGAA **MscI (842)** **ScaI (851)** **BglII (867)**
80 P E G M Q N L A P N D L P L L A M E Y C Q G G D L R K Y L N Q F E N **BspHI (969)**
901 CTGCTGTGGTCTGCGGGAAGGTGCCATCCTCACCTTGTGAGTGCATTGCCTCTGCGCTTAGATACCTTATGAAAACAGAATCATCCATCGGGATCTA **AvrII (1059)**
113 C C G L R E G A I L T L L S D I A S A L R Y L H E N R I I H R D L

1001 AAGCCAGAAAACATCGTCTGCAGCAAGGAGAACAGAGTTAATACACAAAATTATTGACCTAGGATATGCCAAGGAGCTGGATCAGGGCAGTCTTTGCA **SandI (1111)** **SalI (1168)**
147 K P E N I V L Q Q G E Q R L I H K I I D L G Y A K E L D Q G S L C
1101 CATCATTCGTGGGACCTGCAGTACCTGGCCAGAGCTACTGGAGCAGCAGAAGTACACAGTGACCGTCTGACTACTGGAGCTTCGGCACCTGGCCTT **BamHI (1431)** **Bsp120I (1444)**
180 T S F V G T L Q Y L A P E L L E Q Q K Y T V T V D Y W S F G T L A F
1201 TGAGTGCATCAGGGCTTCCGGCCCTCCTCCCAACTGGCAGCCCGTGCAGTGGCATCAAAAGTGGCGCAGAAGAGTGAGGTGGACATTGTTGTAGC **DraIII (1662)**
213 E C I T G F R P F L P N W Q P V Q W H S K V R Q K S E V R Q I D I V V S
1301 GAAGACTTGAATGGAACGGTGAAGTTTTCAAGCTCTTACCTACCCCAATAATCTTAACAGTGTCTGGCTGAGCGACTGGAGAAGTGGCTGCAACTGA **BglII (1760)**
247 E D L N G T V K F S S S L P Y P N N L N S V L A E R L E K W L Q L
1401 TGCTGATGTGGCACCCCGACAGAGGGGACGGATCCACGATGGGCCAATGGTGCCTCAAGGCCCTGGATGACATCTTAAACTTAAAGCTGGTTCA **EcoRI (1968)**
280 M L M W H P R Q R G T D P T Y G P N G C F K A L D D I L N L K L V H
1501 TATCTGAACATGGTCACGGGACCATCCACACCTACCCTGTGACAGAGGATGAGAGTCTGCAGAGCTTGAAGCCAGAATCCAACAGGACACGGGCATC **BspGI (2270)** **XhoI (2294)**
313 I L N M V T G T I H T Y P V T E D E S L Q S L K A R I Q Q D T G I
1601 CCAGAGGAGGACCAGGAGCTGCTGCAGGAAGGGGCTGGCGTTGATCCCCGATAAGCTGCCACTCAGTGTATTTTCAGACGGCAAGTTAAATGAGGGCC **PshAI (2484)**
347 P E E D Q E L L Q E A G L A L I P D K P A T Q C I S D G K L N E G
1701 ACACATTGGACATGGATCTGTTTTCTCTTTGACAACAGTAAATACCTATGAGACTCAGATCTCCACGGCCCCAACCTGAAAGTGTACAGTGTAT **Bsu36I (799)**
380 H T L D M D L V F L F D N S K I T Y E T Q I S P R P Q P E S V S C I
1801 CCTCAAGAGCCCAAGAGGAATCTCGCCTTCTCCAGCTGAGGAAGGTGTGGGGCCAGGTCTGGCACAGCATCCAGACCCTGAAGGAAGATTGCAACCGG **Bsu36I (799)**
413 L Q E P K R N L A F F Q L R K V W G Q V W H S I Q T L K E D C N R
1901 CTGAGCAGGGACAGCGAGCCGATGATGAATCTCCTCCGAAACAACAGTGCCTCTCCAAAATGAAGAATTCATGGCTTCCATGTCTCAGCAGCTCA **Bsu36I (799)**
447 L Q Q G Q R A A M M N L L R N N S C L S K M K N S M A S M S Q Q L
2001 AGGCCAAGTTGGATTTCTTCAAAACAGCATTCAGATTGACCTGGAGAAGTACAGCGAGCAAACCGAGTTTGGGATCACATCAGATAAACTGCTGCTGGC **Bsu36I (799)**
480 K A K L D F F K T S I Q I D L E K Y S E Q T E F G I T S D K L L L A
2101 CTGGAGGAAATGGAGCAGGCTGTGGAGCTCTGTGGCGGGGAGAACGAAGTAAACTCCTGGTAGAACGGATGATGGCTCTGCAGACCCGACATTGTGGAC **Bsu36I (799)**
513 W R E M E Q A V E L C G R E N E V K L L V E R M M A L Q T D I V D
2201 TTACAGAGGAGCCCATGGGCGGAAAGCAGGGGGAACGCTGGACGACCTAGAGGAGCAAGCAAGGAGCTGTACAGGAGACTAAGGGAAAACCTCGAG **Bsu36I (799)**
547 L Q R S P M G R K Q G G T L D D L E E Q A R E L Y R R L R E K P R
2301 ACCAGCGAACTGAGGGTACAGTACAGGAAATGGTACGGCTGCTGCTTCCAGCAATTGAGAGCTTCCGAGAAAGTGGAGTGTATCTATACGAGCTCAG **Bsu36I (799)**
580 D Q R T E G D S Q E M V R L L L Q A I Q S F E K K V R V I Y T Q L S
2401 TAAAAGTGTGTTTGAAGCAGAAGCGCTGGAAGTGTGGCCAAAGTGGAAAGGTTGGTGGAGCTTAATGAATGAGGATGAGAAGACTGTTGCTCCGGCTG **Bsu36I (799)**
613 K T V V C K Q K A L E L L P K V E E V V S L M N E D E K T V V R L
2501 CAGGAGAAGCGGCAAGGAGCTGGAATCTCCTGAAGATTGCTTGTAGCAAGTCCGTGGTCTGTGAGTGGAAAGCCGGATAGCATGAATGCCTCTC **Bsu36I (799)**
647 Q E K R Q K E L W N L L K I A C S K V R G P V S G S P A D S M N A S
2601 GACTTAGCCAGCTGGCAGTGTCTCAGCCCTCCACGCTCCAACAGCTTACCTGAGCCAGCAAGAAGAGTGAAGAACTGGTGGCTGAAGCACA **Bsu36I (799)**
680 R L S Q P G Q L M S Q P S T A S N S L P E P A K K S E E L V A E A H
2701 TAACCTCTGCACCCTGCTAGAAAATGCCATACAGGACACTGTGAGGGAACAAGACCAGAGTTTCCAGGCCCTAGACTGGAGCTGGTTACAGACGGAAGAA **Bsu36I (799)**
713 N L C T L L E N A I Q D T V R E Q D Q S F T A L D W S W L Q T E E

*Bsp*HI (2827) MscI (2842)
SapI (2800) StuI (2822) **NheI** (2836)
2801 GAAGAGCACAGCTGCCTGGAGCAGGCCTCATGATGTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGT
747▶ E E H S C L E Q A S •

HpaI (2974) MfeI (2985)
2901 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCAATT

EcoRI (3070)
3001 TATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAAAACCTTT
3101 AACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC

SapI (3252)
3201 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCT

SspI (3309) SwaI (3323)
3301 TTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT
3401 CCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAG
141▶ • N R T Y K L
3501 GGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATG
134▶ 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
3601 CCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAG
100▶ G 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 (3748)
3701 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGC
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 (3890)
3801 CGCCCCACATGGTGCTTGTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC
34▶ 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

AseI (3956)
3901 ATGGTGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGA
04M ▶

4001 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGGCTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGT

SpeI (4111)
4101 CCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA

SnaBI (4239)
4201 CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCACTACTGGGCATAATGCCAG

NdeI (4344)
4301 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCC
4401 ATTGACGTCAATGAAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCTTGGGCGGTGAGCCAGCGGGCC

PacI (4530)
SdaI (4522) BspLU11I (4540)
4501 ATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGT
4601 TTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCC
4701 CCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGC

ApaLI (4854)
4801 TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTA
4901 ACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTAC
5001 AGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT
5101 AGCTCTTGATCCGCAAAACAAACCAGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT

EagI (5290)
PacI (5270) SwaI (5279) NotI (5289)
5201 TGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCAAGTGGTATGTTAATTAACATTTAAATCAGCGGCCAAT
5301 AAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAAACAAAACAACTAG
5401 CAAAATAGCTGTCCCGAGTGCAAGTGACAGGTGCCAGAACATTTCTCTATCGAA