



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC **HindIII (245)** **Bsu36I (291)**
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCGCTAGGTAAGTTTAAAGTCAAGTGCAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT **NgoMIV (441)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATGGAGAGTCCGAACCCGAACGGAAGCGGGCTCGCAC **KasI (535)** **BstEII (555)** **AgeI (552)**
1 M E E S E P E R K R A R T

601 CGACGAGGTGCCTGCCGGAGGAAGCCGCTCCGAGGCGGAAGATGAGGACGACGAGGACTACGTGCCCTATGTGCCGTTACGGCAGCGCCGGCAGCTACTG **BsrBI (624)** **NgoMIV (686)**
13 D E V P A G G S R S E A E D E D E D Y V P Y V P L R Q R R Q L L

701 CTCCAGAAGTGTGTCAGCGAAGACGCAAGGGAGCTGCGGAGGAAGAGCAGCAGGACAGCGGTAGTGAACCCCGGGAGATGAGGACGACATCCCGCTAG **XmaI (770)**
47 L Q K L L Q R R R K G A A E E E Q Q D S G S E P R G D E D D I P L

801 GCCCTCAGTCCAACGTCAGCCTCTGGATCAGCACCAGCACCTTAAAGAGAAGGCTGAAGCGCAAAGAGTCTGCCAAGGAGAAGCAGCTGAAGGAAGA **BssHII (859)**
80 G P Q S N V S L L D Q H Q H L K E K A E A R K E S A K E K Q L K E E

901 AGAGAAGATCCTGGAGAGTGTGGCCAGGGCCGAGCATTGATGTGTCAGTGAAGGAGATGGCTAAGGGCATTACGTATGATGACCCCATCAAACCAGCTGG **SnaBI (969)**
113 E K I L E S V A E G R A L M S V K E M A K G I T Y D D P I K T S W

1001 ACTCCACCCGTTATGTTCTGAGCATGTCTGAAGAGCGACATGAGCGCGTCCGGAAGAAATACCACATCCTGGTGGAGGGAGACGGTATCCACCACCCA **StuI (1143)**
147 T P P R Y V L S M S E E R H E R V R K K Y H I L V E G D G I P P P

1101 TCAAGAGCTTCAAGGAAATGAAGTTTCTGCAGCCATCCTGAGAGGCCTGAAGAAGAAAGGCATTACCACCCAACCCATTAGATCCAGGGCATCCC **BsaBI (1224)**
180 I K S F K E M K F P A A I L R G L K K K G I H H P T P I Q I Q G I P

1201 CACCATTCTATCTGGCCGTGACATGATAGGCATCGCTTTCACGGGTTACGGCAAGACACTGGTGTTCACGTTGCCCGTCATCATGTTCTGCCTGGAACAA **BstEII (1307)** **Bsp120I (1330)** **ScaI (1394)**
213 T I L S G R D M I G I A F T G S G K T L V F T L P V I M F C L E Q

1301 GAGAAGAGGTTACCTTCTCAAAGCGGAGGGCCCTATGGACTCATCTGCCCTCGCGGAGCTGGCCCGCAGACCCATGGCATCCTGGAGTACT **XmaI (1521)**
247 E K R L P F S K R E G P Y G L I I C P S R E L A R Q T H G I L E Y

1401 ACTGCCGCTGCTGCAGGAGGACAGCTACCACCTCTGCGCTGCGCCCTGTCATTGGGGCATGTCCGTGAAAGAGCAGATGGAGACATCCGACACGG **BsrGI (1500)** **MscI (1514)** **KasI (1526)** **PshAI (1567)**
280 Y C R L L Q E D S S P L L R C A L C I G G M S V K E Q M E T I R H G

1501 TGTACACATGATGGTGGCCACCCCGGGGCGCTCATGGATTTGCTGCAGAAGAAGATGGTCAGCCTAGACATCTGTGCTACCTGGCCCTGGACGAGGCT **XhoI (1834)**
313 V H M M V A T P G R L M D L L Q K K M V S L D I C R Y L A L D E A

1601 GACCGCATGATCGACATGGGCTTCGAGGGTGACATCCGTACCATCTTCTCCTACTTCAAGGGCCAGCGACAGACCCTGCTTTCAGTGCACCATGCCGA **BssHII (1758)**
347 D R M I D M G F E G D I R T I F S Y F K G Q R Q T L L F S A T M P

1701 AGAAGATTGAGAAGTTTGTCTAAGAGTGCCTTTGTAAGCCTGTGACCATCAATGTGGGGCGCGTGGGGCTGCCAGCCTGGATGTCATCCAGGAGGTAGA **XhoI (1834)**
380 K K I Q N F A K S A L V K P V T I N V G R A G A A S L D V I Q E V E

1801 ATATGTGAAGGAGGAGGCAAGATGGTGTACTGCTCAGTGCCTGCAGAAGACACCCCGCCTGTAAGTACTCATCTTTGAGAGAAGAAGGCAGACGTGGAC **BsrGI (2109)**
413 Y V K E E A K M V Y L L E C L Q K T P P P V L I F A E K K A D V D

1901 GCCATCCACGAGTACCTGCTGCTCAAGGGGTTGAGGCGTAGCCATCCATGGGGCAAAGACAGGAGGAACGGACTAAGGCCATCGAGGCATTCCGGG **Eco47III (2208)**
447 A I H E Y L L L K G V E A V A I H G G K D Q E E R T K A I E A F R

2001 AGGGCAAGAAGGATGCTCCTAGTAGCCACAGACGTTGCCCAAGGGCCTGACTTCCCTGCCATCCAGCAGTCAATTATGACATGCCAGAGGAGAT **XhoI (2353)**
480 E G K K D V L V A T D V A S K G L D F P A I Q H V I N Y D M P E E I

2101 TGAGAAGTATGTACACCGGATTGGCCGACCCGGGCGCTCGGAAACACAGGCATCGCCACTACCTTCAACAAAGCGTGTGATGAGTCAAGTGCATGATG **BsrGI (2109)**
513 E N Y V H R I G R T G R S G N T G I A T T F I N K A C D E S V L M

2201 GACCTCAAAGCGTGTGCTAGAAAGCAAGCAGAAGGTGCCGCCGCTGCTGCAGGTGCTGCATTGCGGGGATGAGTCCATGCTGGACATTGGAGGAGAGC **MscI (2455)**
547 D L K A L L L E A K Q K V P P V L Q V L H C G D E S M L D I G G E

2301 GCGGCTGTGCTTCTGCGGGGCGCTGGGTGATCGGATCACTGACTGCCCCAAACTCGAGGCTATGAGACCAAGCAGGTGAGCAACATCGGTGCAAGGA **NheI (2449)**
580 R G C A F C G G L G H R I T D C P K L E A M Q T K Q V S N I G R K D

2401 CTACCTGGCCACAGCTCCATGGACTTCTGAGCCGACAGTCTTCCCTTCCGCTAGCTGGCCAGACATGATAAGATAATTGATGAGTTTGGACAAACCACA **MscI (2455)**
613 Y L A H S S M D F •

2501 ACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAAACA **HpaI (2587)** **MfeI (2598)**

2601 **EcoRI (2683)**
ATTGCATTCATTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGGAATCTAAAATACAGC

2701 ATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGC

2801 TGTTTGCAGCCTCACCTTCTTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTCTTCATTCTTTATGTTTTAAATGCACTGACC

2901 **SspI (2922)** **SwaI (2936)**
TCCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGG

3001 CCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCC
141 • N R

3101 **SacI (3197)**
TGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAG
138 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 P A Y D S I L

3201 CTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCCTTCTGC
105 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 I T D F D K Q

3301 **StuI (3361)**
CCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCT
71 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 S I I E G T K

3401 TGGTCTGATGGCCGCCCGACATGGTGTCTGTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGAT
38 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 E L D Q Q S I

3501 **XmnI (3503)** **AseI (3569)**
GTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCT
54 N F T K M

3601 **SacI (3626)**
CCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGA

3701 **SpeI (3724)**
CATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCAATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCAC

3801 **SnaBI (3852)**
GCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTACTG

3901 **NdeI (3957)**
GGCATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGT

4001 AAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGGTCTTGGGGCGTCT

4101 **PacI (4143)** **SdaI (4135)** **BspLU11I (4153)**
AGCCAGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCC

4201 GCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGAT

4301 ACCAGCGTTTTCCCCTGGAAAGTCCCTCTGCGCTCTCTGTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGC

4401 **ApaLI (4467)**
GCTTTCTCATAGCTCAGCGTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCGCTGC

4501 GCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATG

4601 TAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGG

4701 AAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCT

4801 **PacI (4883)** **SwaI (4892)**
CAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAAT

4901 **EagI (4903)**
NotI (4902)
CAGCGGCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTGGTTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAAACAAAACGAAA

5001 CAAAACAACTAGCAAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA