



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

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC
HindIII (245)
301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTCGCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT
NgoMIV (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTAGGAGGGCCAGCATGCTGCCGTGCCTCGTAGTGCTGCTGGCG
AgeI (552) **SphI (568)**
601 GCGCTCCTCAGCCTCCGTCTTGCTCAGACGCTCATGGACAGAGCTGCCAGCCCTCCGTCTGTGTGGTTTGAAGCAGAATTTTCCACCACATCCTCC
11▶ A L L S L R L G S D A H G T E L P S P P S V W F E A E F F H H I L
701 ACTGGACACCCATCCCAAATCAGTCTGAAAGTACCTGCTATGAAGTGGCGCTCCTGAGGTATGGAATAGAGTCCCTGAACTCCATCTCCAAGTGTAGCCA
44▶ H W T P I P N Q S E S T C Y E V A L L R Y G I E S W N S I S N C S Q

801 GACCCTGTCTATGACCTTACCGCAGTGACCTTGACCTGTACACAGCAATGGCTACCGGGCCAGAGTGGCGGCTGTGGACGGCAGCCGGCACTCCAAC
Th1111 (800) **BstXI (842)** **NgoMIV (886)**
77▶ T L S Y D L T A V T L D L Y H S N G Y R A R V R A V D G S R H S N
901 TGGACCGTCACCAACACCCGCTTCTGTGGATGAAGTACTCTGACAGTTGGCAGTGTGAACCTAGAGATCCACAATGGCTTCTCCTGGGAAGATTC
111▶ W T V T N T R F S V D E V T L T V G S V N L E I H N G F I L G K I

1001 AGTACCCAGGCCAAGATGGCCCCGCAAATGACACATATGAAAGCATCTTCAGTCACTTCCGAGAGTATGAGATTGCCATTCGCAAGGTGCCGGGAAA
144▶ Q L P R P K M A P A N D T Y E S I F S H F R E Y E I A I R K V P G N
1101 CTTACGTTACACACAAGAAAGTAAAACATGAAAACCTCAGCCTCCTAACCTCTGGAGAAGTGGGAGAGTTCTGTGTCCAGGTGAAACCATCTGTGCGT
177▶ F T F T H K K V K H E N F S L L T S G E V G E F C V Q V K P S V A

1201 TCCCGAAGTAACAAGGGGATGTGGTCTAAAGAGGAGTGATCTCCCTCACCAGGCAGTATTTACCCTGACCAACGTATCATCTTCTTTGCCCTTTGTCC
211▶ S R S N K G M W S K E E C I S L T R Q Y F T V T N V I I F F A F V
PshAI (1268)

1301 TGCTGCTCCGGAGCCCTCGCCTACTGCTGGCCCTCCAGCTGTATGTGCGGCGCCGAAAGAAGCTACCCAGTGTCTGCTCTTCAAGAAGCCAGCCC
244▶ L L L S G A L A Y C L A L Q L Y V R R R K K L P S V L L F K K P S P
BspEI (1308)

1401 CTTATCTTATCAGCCAGCGTCCCTCCCGAGAGCCCAAGACACCATCCACCCGCTTGTAGGAGGCGCTTTTGAAGGTGTCCCGAGAGCTGAAGAAC
277▶ F I F I S Q R P S P E T Q D T I H P L D E E A F L K V S P E L K N
1501 TTGGACCTGCACGGCAGCACAGACAGTGGCTTTGGCAGCACCAAGCCATCCCTGCAGACTGAAGAGCCCAAGTTCCTCTCCCTGACCCCTACCCCGAGG
311▶ L D L H G S T D S G F G S T K P S L Q T E E P Q F L L P D P H P Q
StuI (1465)

1601 CTGACAGAACGCTGGGAAACAGGGAGCCCTGTGCTGGGGGACAGCTGCAGTAGTGGCAGCAGCAATAGCACAGACAGCGGGATCTGCTGCAGGAGCC
344▶ A D R T L G N R E P P V L G D S C S S G S S N S T D S G I C L Q E P
SdaI (1688)

1701 CAGCCTGAGCCCCAGCACAGGGCCACCTGGGAGCAACAGGTGGGAGCAACAGCAGGGGCCAGGATGACAGTGGCATTGACTTAGTTCAAAACTCTGAG
377▶ S L S P S T T G P T W E Q Q V G S N S R G Q D D S G I D L V Q N S E
Bsp120I (1719)

1801 GGC CGGGTGGGACACAGGTTGGCTCGGCCTTGGGCCACACAGTCCCCCGAGCCTGAGGTGCCTGGGGAAGAAGACCCAGCTGTGTGGCATTCC
411▶ G R A G D T Q G G S A L G H H S P P E P E V P G E E D P A A V A F
DraIII (1816) **BbsI (1875)**

1901 AGGGTTACTGAGGCAGACCAGATGTGCTGAAGAGAAGGCAACCAAGACAGGCTGCCTGGAGGAAGAATCGCCCTTGACAGATGGCCTTGGCCCCAAATT
444▶ Q G Y L R Q T R C A E E K A T K T G C L E E E S P L T D G L G P K F
BstEII (1902)

2001 CGGGAGATGCCTGGTTGATGAGGCAGGCTTGCATCCACCAGCCCTGGCCAAGGGCTATTTGAAACAGGATCCTCTAGAAATGACTCTGGCTTCTCAGGG
477▶ G R C L V D E A G L H P P A L A K G Y L K Q D P L E M T L A S S G
2101 GCCCAACGGGACAGTGGAAACAGCCACTGAGGAATGGTCACTCTGGCCTTGGCAGCTGCAGTGCCTGGGAATATCTGACTGGAGCTTTGCCCATG
511▶ A P T G Q W N Q P T E E W S L L A L S S C S D L G I S D W S F A H
MscI (2044) **BamHI (2066)** **Bsp120I (2098)**

2201 ACCTTGCCCTCTAGGCTGTGTGGCAGCCAGGTGGTCTCCTGGCAGCTTTAACTCAGACCTGGTACCCTGCCCTCATCTCTAGCCTGCAGTCAAG
544▶ D L A P L G C V A A P G G L L G S F N S D L V T L P L I S S L Q S S
BstEII (2264) **Th1111 (2259)**

2301 TGAGTGACTCGGGCTGAGAGGCTGCTTTTATTAGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGT
577▶ E •
NheI (2336)

2401 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCAATT
HpaI (2474) **MfeI (2485)**

2501 TATGTTTCAGGTTACGGGGAGGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAAACTTT
EcoRI (2570)

2601 AACCTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC
2701 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCAAGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCT
2801 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT
2901 CCCCCAGTTTAGTGTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAG
3001 GGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATG
3101 CCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAG
3201 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGC
3301 CGCCCCGACATGGTGTGTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC
3401 ATGGTGGCCCTCCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGA
3501 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGGCTCAATGGGCGGAGTTGTTACGACATTTTGGAAAGT
3601 CCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA
3701 CTGCCAAAACCGCATCATCATGGTAATAGCGGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTATGACTGGGCATAATGCCAG
3801 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTTGGCATATGATACACTTGATGACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACC
3901 ATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTATTATTGACGTCAATGGGCGGGGTCTTGGGCGGTGAGCCAGCGGGCC
4001 ATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGT
4101 TTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTCC
4201 CCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGC
4301 TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCTTATCCGGTA
4401 ACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTAC
4501 AGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT
4601 AGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT
4701 TGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGCCGCAAT
4801 AAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAACGAAACAAACAAACTAG
4901 CAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA