



PvuI (7)
SgfI (6) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) **NaeI (441)**
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560) **BstEII (555)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATTGGCCGCTCTAAGCCCATAGAGGCGCGGATGGCGGC
1▶ M A A S K P I E A A M A A

Bsp120I (651) **SandI (670)** **BbrPI (688)** **SfiI (699)**
601 GGCTGCTGCGCCGGTTCTGAAATGGAGTGGGCGGTGGCGGTGGGACTGCGGGCCCCGGCTCGGGCGCGGGGACCCTGCCGCGATGGCACGTGGCGCCTG
13▶ A A A P G S G N G V G G G G T A G P G S G A G T L P R W H V A L

Bsp120I (707) **KasI (761)**
701 GCCATCGGGGCCCCCTGTTGCTGGGTGCTGGGCTATGTACCTGTGGAGCCGAGGGCGGAGGGCGCCGGGAAAGCGGGAGCGGGGCGACGCCAGCGGCC
47▶ A I G A P L L L G A G A M Y L W S R R R R R R E A G G R G D A S G

SfiI (837)
801 TGAAGCGCAACAGTGAACGGAAGACCCCCGAGGCGAGGCCAGTCCGGCCCTGGGCGAGTGGCCACCACGACGGTCTGGGGACTCCCTGGAAATGAGCTC
80▶ L K R N S E R K T P E G R A S P A L G S G H H D G S G D S L E M S S

SspI (938)
901 TCTGGACAGAGCGCAAGCAGCAAAAACAAAGGCAACAATATTTCAAAGCAGAAAATACGAGCAAGCTATTCAAGTGTACTGAGGCTATTAGTTTG
113▶ L D R A Q A A K N K G N K Y F K A G K Y E Q A I Q C Y T E A I S L

BsrGI (1096)
1001 TGCCCTACTGAGAAGAATGTAGACCTTTCTACATTTTATCAGAACAGAGCTGCTGCCTTTGAACAATTGCAAAAATGGAAGAAGTGGCA CAAGATTGTA
147▶ C P T E K N V D L S T F Y Q N R A A A F E Q L Q K W K E V A Q D C

XmnI (1219) **SphI (1241)**
1101 CAAAGGCTGTTGAACTTAATCCCAAATATGTGAAAGCCCTCTTTAGACGTGCAAAAGCCCATGAGAAGCTAGACAATAAGAAGGAGTGTTTAGAGACGT
180▶ T K A V E L N P K Y V K A L F R R A K A H E K L D N K K E C L E D V

HindIII (1660) **DraIII (1692)**
1201 CACTGCTGTGTATATTAGAAGGGTTTCAAAATGAGCAGAGCATGCTGTTAGCTGATAAAGTCTTAAACTTCTTGGAAAGAGAATGCCAAAGAAAA
213▶ T A V C I L E G F Q N E Q S M L L A D K V L K L L G K E N A K E K

SphI (1700) **ClaI (1756)** **PvuII (1795)**
1301 TACAAGAACCCTGAACTCTGATGCCATCTCCACAGTTTATTAATCTTACTTCAAGTCTTTACCGATGATATAATTTCTCAACCAATGCTTAAAGGGAG
247▶ Y K N R E P L M P S P Q F I K S Y F S S F T D D I I S Q P M L K G

HindIII (1660) **DraIII (1692)**
1401 AGAAGTCTGATGAAGATAAAGACAAGGAGGAGGCTTTAGAAGTGAAGAAAATCTGGGTATTTGAAAGCTAAACAATATATGAAAGAGAAGAAAACTA
280▶ E K S D E D K D K E G E A L E V K E N S G Y L K A K Q Y M E E E N Y

HindIII (1660) **DraIII (1692)**
1501 TGACAAAATCATAAGTGAATGTTCAAAGAAAATAGATGCTCAAGGCAAAATACATGGCAGAAGCATTACTTCTGCGAGCCACTTCTACCTACTTATTGGC
313▶ D K I I S E C S K E I D A Q G K Y M A E A L L L R A T F Y L L I G

SphI (1700) **ClaI (1756)** **PvuII (1795)**
1601 AGTGCCAACGCGCAAGCCTGACTTAGATAAGGTCATCAGTTTGAAGGAAGCTAATGTGAAGCTTCGAGCAAATGCCCTTATCAAGAGAGGCCATGT
347▶ S A N A A K P D L D K V I S L K E A N V K L R A N A L I K R G T M

Ppu10I (1844) **NsiI (1844)**
1701 GCATGCAGCAGCAACAACCTATGCTGTCTACTCAGGACTTCAACATGGCTGCCGAGATCGATCCTATGAACTCAGACGTTTATCACCACCGAGGACAGCT
380▶ C M Q Q Q Q P M L S T Q D F N M A A E I D P M N S D V Y H H R G Q L

NdeI (2210) **NcoI (2219)** **BspLU11I (2267)**
1801 GAAAATTCTGCTGGATCTGGTTGAAGAAGCAGTGGCGGATTTTGTGATGATGATCAGATTAAGACCAAAGTTTGGCTTTGGCGCAGGCTCAGAAGTGT
413▶ K I L L D L V E E A V A D F D A C I R L R P K F A L A Q A Q K C F

DraIII (2327)
1901 GCATTGTATCGCCAGGCATATACAGCAACAATTCTTCGCAAGTCCAGGCGATGAAAGGTTTGAAGAGATCATAAAGAAAATTTCCAAGATGTGCTG
447▶ A L Y R Q A Y T A N N S S Q V Q A A M K G F E E I I K K F P R C A

NdeI (2210) **NcoI (2219)** **BspLU11I (2267)**
2001 AAGGCTATGCACTTTATGCCAGGCATTAACAGATCAACAACAGTTTGGTAAAGCTGATGAAATGTATGATAAGTGTATTGATTTGGAACAGATAATGC
480▶ E G Y A L Y A Q A L T D Q Q Q F G K A D E M Y D K C I D L E P D N A

NheI (2405)
2101 TACAACCTATGTTTAAAGTTTACTTCAACTCAGTGAAGCAAGATTTGGATAAAGGTTTGGAGCTTATCAGCAAGGCTATTGAAATTTGCAACAAA
513▶ T T Y V H K G L L Q L Q W K Q D L D K G L E L I S K A I E I D N K

HpaI (2543)
2201 TGTGACTTTGCATATGAGACCATGGGGACTATTGAAGTGCAGAGAGGAAACATGGAGAAAAGCCATTGACATGTTCAACAAAGCTATCAACTTGGCCAAGT
547▶ C D F A Y E T M G T I E V Q R G N M E K A I D M F N K A I N L A K

HpaI (2543)
2301 CGGAAATGGAGATGGCTCATCTGTATTCACTTTGTGATGCTGCCATGCCAGACAGAAGTAGCAAAGAAATACGGATTAAAACCGCCGACATTATAAAC
580▶ S E M E M A H L Y S L C D A A H A Q T E V A K K Y G L K P P T L •

HpaI (2543)
2401 ACAGGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGA
2501 TGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGAG

2601 **EcoRI (2639)**
 TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCT

2701 TTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCGCCTCACCTTCTTTTCATGGAGTTAAGATATAGTGT

2801 **SspI (2878)** **SwaI (2892)**
 ATTTTCCAAGGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCAGTACCTCCACATTCCCTTTTATAGTAAATATTCAGAAATAATTTAAAT

2901 ACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACA

3001 **BstXI (3182)**
 AAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACC

3101 AGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCCCTGATGGATCTGT
 123 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 V R I S R D

3201 **StuI (3317)**
 CCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCTGCTCACAGCAGCCAAATGGCAATGGCTTCAGCACAGAC
 90 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 I A E A C V

3301 **BspHI (3467)**
 AGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCATAG
 57 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 H K N D E Y

3401 **XmnI (3459)**
 AGCATGGTGTCTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAATGCTATTAT
 23 L M T I K E T A V E V L E L D Q Q S I N F T K M

3501 **AseI (3525)**
 ACTATCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAACGAGCTCTGCTTATATAG

3600 **SpeI (3680)**
 ACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTC

3699 CCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAG

3799 **SnaBI (3808)**
 CGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCCATAAAGTCAATGTAAGTCAATGTAAGTCCCAAGTAGGAAAGTCCCATAAAGTCAAT

3899 **NdeI (3913)**
 AGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGTGGGAGTTTACCCTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGC

3999 **PstI (4092)** **SdaI (4091)**
 GTTACTATGGAAACATACGTATTATTGACGTCAATGGGCGGGGCTGTTGGCGGTGACCCAGGCGGGCCATTTACCCTAAGTTATGTAACCGCTGCA

4098 **PacI (4099)** **BspLU11I (4109)**
 GGTAA TTAAGACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACC

4197 AGCATCACAAAAATCGACGCTCAAGTCAAGTCAAGTGGCGAAACCCGACAGGACTATAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGCCTCTCC

4297 TGTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTG

4397 **ApaLI (4423)**
 TAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGTGGCCTTATCCGGTAACTATCGTCTTGTAGTCAACCCGGTAA

4497 GACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTA

4597 CGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAGAGTTGGTAGCTCTTATCGGCAAAACAAACCC

4697 GCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTC

4797 **EagI (4859)** **PacI (4839)** **SwaI (4848)** **NotI (4858)**
 AGTGAACGAAAACCTCACGTTAAGGGATTTTGGTATGGCTAGTAAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTG

4897 TGTGTTGGTTTTTGTGTAATCGTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGAAGTGTG

4997 CAGGTGCCAGAACATTTCTATCGAA